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VIRGINIA.

A SYNOPSIS

OF THE

Geology, Geography, Climate and Soil of the State,

TOGETHER WITH ITS

RESOURCES OF MINES, FORESTS AND FIELDS,

Its Flocks and Its Herds.

Also Selections from the Press, and well-authenticated Statements, showing specially its Agricultural, Horticultural and Pomological Advantages.

Accompanied by Statistics of Its Educational, Religious and Social System; to which is added a Collection of Maps showing its Transportation Facilities, and the Location of Its Cities and Principal Towns.

Virginia

PUBLISHED BY THE STATE BOARD OF AGRICULTURE.

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SYNOPSIS

—OR—

BRIEF GENERAL OUTLINE

—OF—

VIRGINIA.

Virginia—what is left since the excision of West Virginia—lies between the parallels of 36° 21′ and 39° 27′ N., and contains an area variously estimated at from 38,000 to 45,000 square miles. The designation "Keystone State" would be more appropriate to Virginia than to Pennsylvania, seeing that it is the one of the original thirteen States which occupies just that position—"keystone" of the arch in the grand sweep or curve of the coast from the Bay of Fundy to Florida. According to the classification of Maury and Guyot, it is the southernmost of the "Middle Atlantic States." Hotchkiss, in his "Summary," says: "Virginia, as a whole, lies in the region of 'middle latitudes,' giving it a climate of 'means,' between the extremes of heat and cold incident to States south and north of it." Dr. M. G. Ellzey, of Washington, D. C., well says: "The geographical position and physical features of Virginia are eminently favorable to a salubrious air and delightful climate, equally removed from extremes of heat and cold."

The often-quoted expression of Captain John Smith, "Heaven and earth never agreed better to frame a place for man's habitation," shows the estimation in which Virginia was held by the early settlers.

In 1858, the Hon. Caleb Cushing, of Massachusetts, in an address delivered in Richmond, declared his belief that "without disparagement to other parts of the Union, the belt of country subtended by the Chesapeake Bay, and extending indefinitely westward, possessed the climate and other conditions most favorable to the highest development of man and the horse, the noblest of the animal creation." While this may well be considered somewhat in the light

of a complimentary exaggeration, for we hold that this imaginary belt should be considerably broadened, north and south, yet it is probable that the central zone of the most favored climate lies within the limits marked out. Indeed, the truth of the utterance with regard to the horse—defining the region where he reaches the highest degree of perfection—seems now to be established beyond cavil by the conceded pre-eminence of Kentucky, which has taken the place once held by Virginia as the "race-horse region," and moreover is surpassing all other States in breeding horses for trotting and for all general purposes.

It is also affirmed that *men* there attain greater stature than anywhere else on the Continent.

Even if this claim be regarded untenable, it cannot be denied that the region in question is highly favored by nature.

Going from the lowlands of Virginia westward we pass from the warm alluvial districts of "Tidwater," which are tempered by the influence of the Gulf Stream, through the more elevated region of "Middle" Virginia and "Piedmont," across the "Blue Ridge" into the great limestone formation of the "Valley"—thence into "Trans-Alleghany," or "Appalachia," which is also a limestone region, in part, the difference of elevation, geological formation, distance from the sea, &c., giving an almost unlimited choice of industrial pursuits.

For more convenient reference and examination by any who are thinking of settling or prospecting in Virginia, a short description of the State is here given by grand divisions, each with the counties composing it. These are taken in the order indicated above, from east to west, viz:

	Area—Square Miles.
Tidewater Virginia	11,350
Middle Virginia	12,470
Piedmont Virginia	6,680
The Valley	7,550
The Blue Ridge	1,230
Appalachia	5,720
	45,000

THE TIDEWATER DIVISION.

The first of these, Tidewater, is an alluvial region, rising from the sands that skirt the ocean, the post-tertiary formation, to the low plains nearest the Chesapeake Bay, the pliocene—then to the middle tertiary, the miocene—the strip of country extending, as ascertained by Rogers and Ruffin, to a line passing through Mathias Point, on the Potomac, and Coggin's Point, on James River, near City Point—there we strike the eocene, or lower tertiary, a formation underlying the others, and coming next in age and elevation to

the archæan formation of the middle division, which it joins in its western boundary at the head of tide.

SOILS AND CROPS.

The soils of this division are, in general, light, warm, easily tilled—and favored to this end with a semi-tropical climate, are, *par excellence*, garden soils—admirably adapted to raising early vegetables for the great markets of the Northern cities. This is especially the character of the Eastern Shore, the Norfolk and parts of the Hampton and Gloucester Peninsulas. In a more restricted sense, this description of the soil is applicable to the greater part of Tidewater.

The products of this division are very varied, and can be further diversified to an almost unlimited extent.

Cotton is grown with great profit in several counties. *Peanuts*, the finest produced anywhere. Corn and oats flourish everywhere. Wheat of the very best quality, and grass, except where the soil is too light for these crops, as is the case with some of the most valuable lands.

Tobacco is cultivated to a very small extent in some of the Tidewater counties. In colonial times it was the staple—not only the money crop, but the currency of the colony; and the reputation of Virginia tobacco was built upon the product in the Tidewater section. The tobacco grown at Varina, on James River, had an especial reputation, and the name of the place is said to have been given it because the quality of the tobacco there grown resembled that of Varinas, in Cuba.

There is no doubt that excellent tobacco can be—*has been*—grown in every county in this section; and probably in every one in the State.

SHEEP AND HORSES.

This country is well adapted to sheep. The earliest lambs, and some of the finest in the State, are raised here, and have been shipped to New York with great profit.

Fifty years ago the finest blooded horses of America were bred here in the western counties of Tidewater, and the adjoining counties of the Middle Division. This was called the "race-horse region," and it was long supposed that nowhere else could this class of horse be raised in equal perfection.

GRASS.

This claim, and the one just preceding, that Eastern Virginia is a good sheep-raising region, may seem strange in view of the fact that it is commonly considered the very reverse of a grass country; but the native grasses, as wire grass, crab grass, and blue grass (*poa compressa*), are very nutritious.

Moreover, one of the results of the late war was to show that timothy, orchard and other grasses, previously supposed to be ill-

suited to the country, would grow luxuriantly under proper conditions. Even old residents were surprised to find timothy, &c., growing in perfection where horses had been pieketed and fed upon Northern hay; and there is no longer any doubt that hay, the very finest, can be grown here. Some of the best that comes to the Richmond market is made upon the James River, between Richand Norfolk.

FRUITS.

This is a fine fruit country. Apples, pears, grapes, and small fruits grow in great perfection. The peach is not a sure crop in the greater part of this country.

MARL.

To speak of the geology of this country is to give a description of the wealth of marl underlying it—the whole region, from the ocean to the head of tide, probably, resting upon beds of marl at greater or less depth. There are, as far as is known, no minerals here possessing value other than in an agricultural point of view, except the ochre beds of Chesterfield county, near Bermuda Hundreds. The small deposits of iron ore occasionally found in the marl beds, or bog ore near the streams, do not constitute an exception worth speaking of. But the agricultural value of the marls of Virginia cannot well be overestimated—exhaustless stores of fertilizing material laid up for the future—they will some day make the alluvial region of Virginia the Belgium of America.

HEALTH.

An idea has somewhere gained currency that the Tidewater region of Virginia is an exceedingly unhealthy country. It is conceded to be very desirable in other respects, but the fear of malaria keeps away many who otherwise would gladly settle there.

That ague and fever prevails in some sections, it is idle to deny. Other localities in the Tidewater region are free from malarial diseases, and there is a remarkable immunity from fevers of a typhoid character. The late Dr. Pollard said: "If the fact could be known, no more mortality and as much longevity would be found in Tidewater as in the mountainous regions of Virginia.

MIDDLE VIRGINIA.

The next, as we go westward, is the Middle Division, comprising the country from Tidewater to the low range of mountains parallel to the Blue Ridge, and about twenty miles distant from it. This outlying range extends from Loudoun to Pittsylvania, with some-

what irregular intervals and direction, but with a general conformity to the course of the Blue Ridge.

Here is the great tobacco region of Virginia—the lands of the upper and lower jurassic period or new red sandstone being especially adapted to the finer qualities. This formation is identical with that of Lancaster county, Pa., and the lower Connecticut Valley, where the cultivation of seed leaf tobacco has enriched the community to an almost incredible degree.

Middle Virginia is an undulating country—hills, table-lands and intervales—living springs and never-failing water courses everywhere. The soils vary greatly—the bottom lands generally very fertile, and the uplands are often very productive, especially when the rocks contain epidote and some varieties of hornblende.

The irregular limestone formation along the western borders of Middle and the eastern of Piedmont does not make a characteristic soil, except in a few localities. Here and there the soils are exceedingly fertile, as in parts of Orange, Culpeper and Loudoun, which counties are assigned to Piedmont, although part of their territory belongs of right to the Middle Division.

The productions of this region are varied. Tobacco has been mentioned as a staple of a large part of this division of the State, but its cultivation is by no means universal—in many counties it is not grown at all. Everywhere the cereals and fruits of temperate climates, notably the apple and grape, grow in perfection; and while we have not yet reached the grazing sections proper, we find clover, timothy, orchard and other grasses growing here and there in great luxuriance; and they show a natural adaptation to grass, which, however, so far from having been encouraged, has persistently been thwarted—fought against—from the first settlement of the country until recently.

HEALTHFULNESS.

Except in limited localities in and near certain water courses, where malarial diseases prevail to some extent, this is an exceptional healthy region; perhaps as favorable to longevity as any part of America—we might almost say of the world.

WATER.

This is a marvellously well watered region—a land of living springs and perennial water courses, rivers, creeks and brooks. The eastern edge of the belt has been described as "a granite rim rising some 200 feet above the tide waters, setting bounds to their further flow inward, furnishing fine water power by the falling of the rivers over it, and sites for commercial and manufacturing towns. In every part of the Middle Country there is abundance of water—it would be hard to find a field in which there are not springs or brooks—and sites for mills are nowhere far to seek.

THE PIEDMONT DIVISION.

This section of Virginia, as its name implies, lies at the FOOT of the *Blue Ridge* Mountains. This range of mountains extends from the Potomac river, at or near Harper's Ferry, to the Dan river, which forms the dividing line at the point where the range crosses it between Virginia and North Carolina. Its direction is northeast and southwest; length about 250 miles.

The general elevation of this section ranges between 300 and 500 feet above tidewater. The sub-range of mountain ridges that runs through and parellel to the Blue Ridge in many points attains to altitudes of 100 to 600 feet higher: The area included in this section is about 250 miles long by 25 miles (average) wide—making about 6,700 square miles.

Lying at the foot of the Blue Ridge, its western border is indented by spurs running into it. Between these spurs there are *coves* of many sizes and shapes, watered by streams—the headwaters of rivers flowing east. This eastern slope of lands is broken by the *sub-range* of mountains above referred to, but the altitude and surface of this range are not of such a nature as to prevent cultivation and grazing on the highest points.

For beauty of landscape, variety of scenery, native fertility of soil, water courses contributing to practical benefit as well as to beauty of scenery, this section is surpassed by few if any other sections in the United States.

The highest mountains found in this section are "Peaks of Otter" (one 4,000 and the other 3,874 feet high) in Bedford county; "Fork," 3,850, "Bluff," 3,522, and "Ragged," 3,298 feet, in Madison county; "Cahas," 3,571, in Franklin county; Mount Marshall, 3,374, in Rappahannock county; "Bull," 3,215, in Patrick county; Mt. Pleasant, 4,000, "Tobacco Row," 2,937 feet, in Amherst county; "Bull Run," 1,374, in Fauquier county, and "Peters," 1,824 feet, in Orange county.

This section contains 11,024 farms. Number of acres of improved land, 1,951,427; acres unimproved, 1,850,149; total, 3,791,576. Woodland covers about one-half the surface. The woodland consists of the following kinds of growth: Oak (many species), hickory, chestnut, locust, walnut, pine, cedar, beech, birch, gum, tulip, poplar, &c. The soil of Piedmont Virginia is mainly red in color, and much heavier than what is found in the Middle section.

The soils of Piedmont are undoubtedly many of them among the most fertile known, and can be made to produce a great variety and abundance of crops. They are easily worked; if neglected they are soon covered by a growth of underbrush.

Mean temperature of Piedmont—annual,	- -	53.7
" " " " —winter,	- -	44
" " " " —summer,	- -	78

Rainfall, 32 to 44 inches.

GRAPE CULTURE AND ORCHARDS.

In latter years the success in raising the grape in a number of counties in this section has largely increased the production of that fruit and the manufacture of wine. In 1876 the silver medal was awarded to the wine made by a company at Charlottesville, in Albemarle county, at the Paris Exposition—the only one received for excellence. This called attention to the products of the vineyards of that locality. Since that time great progress has been made in the raising of grapes. The fruit is largely shipped abroad and the surplus made into wine.

It is believed by good judges that the Piedmont section, particularly some large areas of it, is the best apple region in Virginia or any other State. The "Albemarle Pippin" has attained to great reputation as an apple for export. As such it is much sought after, being esteemed the best apple ever carried to England. Its special home seems to be confined, however, to the counties of Albemarle, Orange, Amherst and Nelson, possibly because these counties have given it more attention.

PECULIARITIES OF THIS SECTION AND SPECIAL ADVANTAGES AS A HEALTH RESORT.

Major Jed. Hotchkiss, in *The Virginias*, June, 1884, says: "We would call attention to the fact that the Blue Ridge region in Virginia is, as can be proven by the testimony of consumptives fully restored to health, the best *Sanitarium* in the United States east of the Mississippi. The sheltered eastern slopes of the long stretch of that mountain range in Virginia, above the line of 1,000 feet of elevation above the ocean level and under that of 2,500, offers hundreds of localities for health resorts for people afflicted with pulmonary diseases, that surpass any others that we know of or have read of. During the past thirty-six years the writer has frequently recommended this region to persons having such diseases, and in every case where the advice was followed, a restoration to health has resulted. If anyone is skeptical about the efficacy of the Blue Ride air, water and exercises, as remedial agents for lung troubles, let him spend a few months at some point in this belt, and we will make him the refere to sustain the opinion here advanced. A young man from Vermont, a victim of this especially fearful New England disease, took his advice and spent the winter of 1882–83 there, and went away with restored health that still continues. We could name other cases.

"About the best such people could do would be to buy a few acres of the Sunward dry air slope of the Blue Ridge in Virginia, and busy themselves in raising grapes and other fruits while inhaling health and strength. There are at least 200,000 acres of such sanitary country for occupation, room for 20,000 people with ten acres for each, and none of it remote from railways or markets; and here, too, is the region for building up extensive establishments for health and pleasure that will have a large all-the-year-round patronage."

General McDonald, editor of the "*Industrial South*," referring to the above, says: "We may say that we have some personal knowledge of the particular locality mentioned, and from our own observation are quite inclined to acquiesce in the opinion of Major Hotchkiss. Among others whom we met at Afton (in this belt) was a very intelligent and pleasant gentleman in the government service at Washington, from whom we learned that, being subject to rheumatism, he thought it well, before determining where he would spend his summer vacation, to consult the Signal Bureau—the desideratum being a dry atmosphere. The officers examined their records, and reported to him that the dryest mountain atmosphere of which they had knowledge was at a place on the Blue Ridge called Afton—of which he had never before heard—and his experience had attested the correctness of the advice that sent him there. So dry is the atmosphere that a newspaper spread on the grass at night shows no sign of moisture next morning, although the night is much cooler.

THE VALLEY

is a portion of the great Central Appalachian Valley that extends for hundreds of miles, from Canada to Alabama—a broad belt of rolling country, enclosed between lofty mountain ranges, diversified by hills and valleys, with many winding streams of water—the Blue Ridge on the east and the Kittatinny or Endless mountains on the west. This is a region of limestone rock, shales, slates and clays.

The lowest point of the Shenandoah Valley is at Harper's Ferry, in (now) West Virginia. The lowest or most northern county in Virginia is Frederick, the highest is Augusta, respectively 242 and 1,863 feet above tidewater. The length of the Shenandoah Valley in Virginia is 136 miles.

In this space are seven counties. The lowest is Frederick, then Clarke, Shenandoah, Warren, Page, Rockingham and Augusta. In the latter county are the head springs of the Shenandoah river.

A large portion of the Valley was settled by Pennsylvania Germans in the early history of the State. These people brought with them their frugal habits, their conservative systems and modes of farm management, which served to keep it what nature made it to be—one of the most desirable tracts of country in the United States.

SOILS.

The soils of the Valley are quite numerous; they are generally called *limestone soils*, as this is a limestone region. The prevailing soil is a stiff, clayey loam—a durable and fertile soil, well adapted to the growth of grass and grain. In the slaty belts the admixture of the decomposed aluminous rocks makes a lighter and warmer

soil. There are also belts of sandy or gravelly soil that are cold and require cultivation and fertilizing to make them productive, but once redeemed they yield very well. Much of the larger portion of the Valley has naturally a good soil, rich in the elements of fertility. The soil, like the rock, runs in belts with the Valley, and the lean ones are the smaller number. The streams, as in all limestone regions, are winding, so there is here a considerable area of bottom lands. Washington said of this section that "in soil, climate and productions, in my opinion, it will be considered, if not considered so already, as the Garden of America."

Here we find the natural *blue-grass lands*, the home of the stock-raiser and dairy-man; the *heavy clay lands*, fat in fertilizing ingredients, always repaying the labor spent on them in crops of corn or other grain; the light slaty lands, famous for wheat crops; the poorer *ridge lands*, where sheep rearing should be followed.

BLUE RIDGE DIVISION OR NEW RIVER PLATEAU.

This elevated plateau, situated between the two widely diverging limbs of the bifurcation of the Blue Ridge, presents many features of high interest alike to the geologist and the practical miner. All of its ledges and bands of rock strata, its numerous deposits of ores and minerals, and its system of drainage, seem to have been projected on a scale of superior proportions. Its elevation above tide, of about 2,600 feet average, secures for it perfect immunity from malarial diseases, and its high mountains, wooded to the summit, bring the rains in due season; so that, with greater facilities of transportation once secured to it, they will become a most formidable competitor with all other divisions as a factor in solving the question of the State's prosperity.

As heretofore stated, the plateau of the Blue Ridge is composed of the three counties—Floyd, Carroll and Grayson. They are separated from the Valley Division by the westerly bifurcation of the Blue Ridge, under the names of Pilot mountain, Poplar Camp and Iron mountains, and from Piedmont by the eastern limb of that bifurcation.

In the absence of lines of railway transportation, by which the superior beds and deposits of valuable ore would be developed, these counties now send to market from their naturally fine soil, herds of fine, healthy cattle, flocks of sheep, much high-priced tobacco, wheat, dried fruit, herbs, etc., and some of the finest apples produced in Virginia. This freestone soil—that is, the soil resulting from a decomposition *in situ* of extensive bands of granitoid rock, gneiss, hornblende, aluminous slates, shales, feldspars, etc., in fact, all the wide range of silicates of alumina, potash, lime, soda, iron, etc.—seems, at this elevation of over 2,000 feet above

tide, and in latitude 30° 40', to be the home of the apple, pear, peach, plum, and other fruits, in a sense that means perfection in the fruit and unfailing crops, year after year, with the possible exception of the peach. Should railway transportation at last be supplied these counties, in order to develop their mineral resources, one of the first effects resulting would be the great stimulus given to the increased production of fruits and fine tobacco.

This plateau is noted for the perennial flow of its fine, clear streams; their volume and their fall per mile being such as to give them high importance and usefulness. New river, Little river and some of their larger tributaries will each give power of very large dimensions.

APPALACHIA.

Appalachia, with its long ranges of high mountains, shows in Southwestern Virginia some of its greater mountains so formed as to be well-calculated to call forth from a skilful general, as was General Washington, a remark meant to convey the idea that he would use them as an impregnable defence. Possibly he, in speaking in that sense of "the mountains of West Augusta," meant the very ranges that occupy the middle of Appalachia; and, apparently, make great natural fortresses, as Burke's Garden is in appearance.

This elevated mountain basin in Tazewell county, in the very heart of the great Clinch range, contains about 30,000 acres of the most fertile blue-grass land, and is surrounded by high, almost mural, mountain escarpments, all round, except at one point on the north side, where the waters of this singularly beautiful basin break through and form Wolf creek.

In the counties composing Appalachia doubtless there are many other localities of equal beauty and character as points of strategical importance; but this is slight indeed when compared with their value as the depositories of great mineral wealth, the storehouses of the rain and moisture, and the great barriers against the too sudden incursion of the great northern storms.

The whole territory, of about 3,800 square miles, is immensely important to the State for quite numerous reasons; among which, it may be stated, are the vast areas of superior grazing lands in limestone valleys, extensive forests of excellent deciduous and soft woods, and some of the most important mineral-bearing series of rock formations in the State.

This important section of Virginia, so formed into such noble alternations of mountain and valley, hill and dale, of pasture and woodland, with its magnificent and inexhaustible repositories of mineral wealth, presents a topography, systems of drainage, and resulting atmospheric conditions of superior excellence, which, together with its position on favorable parallels of latitude, combine

to render it equal, if not superior, to any area of like size in the world.

The tributaries of New river, rising on White Top and Balsam mountains, fully 5,400 feet above tide; headwaters of Holston river, rising at Bear Town, near Burke's Garden, 4,700 feet above tide; and of Powell's river at Stone mountain, 4,000 feet above the sea, we have left to us, by these streams, and, also unaffected by the agencies of ice and snow, these splendid contrasts in the elevations and depressions of this section's topography, which not only secure to the region a healthful and invigorating summer climate, that is fast tending to make it the sanitarium of the South, but adds no less to the beauty of the scenery than security against any lengthened failure of rainfall.

[Compiled from Hand-Book of Virginia. Fifth Edition.]

Vegetable Productions of Virginia.

[Extract from Manufacturers' Record.]

Virginia has a rich and abundant native flora; and the introduced plants, the cereals, grasses, and others, that in temperate climates are objects of cultivation, here have found favorable soils and congenial climates. Here grow and yield abundantly the "plants good for food" both for man and beast, and those employed in manufactures. Timber trees of many kinds abound in all sections of the State.

A comparison of the production of cereals with any other country presents Virginia in a most favorable light as a grain-producing region, while nearness to market adds largely to the value of the products.

Indian Corn is a staple bread grain of most sections of the State except the Valley; the laboring rural population, in many portions, use it almost exclusively.

In Tidewater both *sweet* and *Irish potatoes* are a staple crop, the former having a high reputation in market for their superior quality. The latter are sent to market very early in the season. Except in the Tidewater section, where market gardening has become a leading industry, potatoes, as a rule, are only raised in Virginia for family consumption; they are not fed to stock, nor, except from Tidewater, sent to distant markets. There is no question but that more use should be made of this prolific and easily raised article of human and animal food.

Peas and *Beans* are not cultivated in Virginia to the extent they should be, when account is taken of the large areas so admirably adapted to their cultivation, so much more so than to the production of maize, that requires a strong soil, which it rapidly exhausts. Only in Tidewater and parts of Middle Virginia are peas and beans farm products.

Oats and *Barley*, cereals not used here for human food, are important Virginia crops, especially the former. Barley is only cultivated to a limited extent, though it always does well, and it could be most advantageously grown for exportation, since the climate would give it generally the quality it has only in occasional seasons in England, when it bears a high price.

in Virginia are large and valuable, much more so than is indicated by the returns of the census. Every portion of the State is remarkably well adapted to the growth of fruits of the warm-temperate and temperate climates.

In Tidewater Virginia apples, pears, peaches, quinces, plums, cherries, nectarines, grapes, figs, strawberries, raspberries, gooseberries, currants and other fruits thrive and produce abundantly, the quality of the products being unsurpassed, as the awards of the American Pomological Society attest. The value of the small fruits alone annually sent to market from Tidewater is more than the sums for orchards and gardens. The trade in early strawberries is one of large proportions. Especial mention should be made of the wild Scuppernong grapes, peculiar to the Tidewater country near the sea, which spread over the forests and bear large crops of excellent fruit, from which a very palatable wine is made. The originals of the Catawba, Norton's Virginia, and other esteemed American grapes grow wild in the forests of Virginia.

All the fruits named above grow in every section of the State, except, perhaps, figs. Piedmont, the Blue Ridge and the Valley are famous apple regions. Peaches flourish in all sections, but Middle and Tidewater may claim some precedence in adaptability. The Blue Ridge is entitled to the name of the "fruit belt," and its extensive area is yet to become the most noted wine and fruit-producing section of the United States east of the Rocky mountains. All the fruits of Virginia flourish there in a remarkable manner, and find special adaptations of soil, climate and exposure.

No country can be better situated for market-gardening than Tidewater Virginia. It is from 14 to 36 hours by water from Baltimore, Washington, Philadelphia, New York and Boston, the centres of population of the Atlantic slope of the United States. At the same time, its seasons are from one to two months earlier, giving an advantage of fully a double price for its garden products over the country in the vicinity of those cities.

The home gardens are not considered in any of the "returns" of the productions of Virginia, where potatoes (Irish and sweet), corn, peas, beans, onions, beets, parsnips, radishes, lettuce, celery, salsify, asparagus, melons and squashes of numerous kinds, carrots, okra, tomatoes, &c., &c., are raised in the greatest abundance, and form a portion of the daily food of the entire population.

The *Peanut* is extensively cultivated in Tidewater. Isle of Wight, Surry and Sussex are very notable counties for production of peanuts. Sandy and light soils are suited to their growth.

Vegetable Sweets are produced in Virginia from the sugar maple and the Chinese sugar-cane.

The *Wine* crop of Virginia is a small one, compared with the extensive territory here found that is especially adapted to the growth of the vine, both by the character of the soil and the conditions of the climate. Fully 2,000,000 acres of land in Virginia have soils and exposures similar to those of the most noted wine-producing

sections of Europe, and the seasons are so long that the grape has ample time to fully mature and develop its natural juices, fitting them for the manufacture of pure wine. Experience has shown that the vines here grown are free from diseases, and that they may be relied on for abundant crops.

The Blue Ridge offers great advantages for vinticulture. One vineyard on it, in Warren county, of 75 acres, produces from 20,000 to 30,000 gallons of wine and from 6,000 to 10,000 gallons of brandy annually, the yield being from 300 to 500 gallons per acre. The "red lands" of the Piedmont section are famous for their fitness for this pleasant and profitable industry. There are many localities in the other sections of the State where the vine flourishes. Early grapes are sent in considerable quantities from Virginia to Northern and Eastern markets. Mention has been made of the Scuppernong grape of Tidewater, marvellous for the space a single vine will cover and the quantity of fruit and wine it will produce. There is no more inviting field for the vigneron than Virginia.

Tobacco is a staple product of Virginia. The "Virginia leaf" is noted the world over for its excellence, the result of manipulation, as well as of soil and climate. The soils of the Piedmont and the Middle sections are among the best for the growth of good tobacco; those of Middle produce the finest and most valuable. Tidewater is the region for Cuba and Latakia varieties, while immense crops of coarse and heavy tobaccos are grown on the rich lands of the Blue Ridge, the Valley and Apalachia.

It should be noted that tobacco culture is not an exclusive one in any part of Virginia. Large crops of grain and roots are raised on the same plantations.

Cotton is grown in the southeastern counties of Virginia, between the James river and the North Carolina line. The State ranks twelfth in cotton production, the census of 1880 showing an annual product of 19,595 bales.

Grass is one of the abundant productions of Virginia, much of its territory being inside the limits of "natural grasses," and all of it is adapted to the vigorous growth of the "artificial" or cultivated ones. But the character of its climate does not require a large stowing away of hay; therefore it does not "figure" largely in the returns. A reference to the number of cattle in each section of the State makes the quantity of hay produced appear very small in proportion, but it shows that the pastures can be relied on for most of the year, owing to the mildness of the climate, greatly to the advantage of the stock-feeder. It is true that a large quantity of long forage is obtained from the "tops, blades and stalks" of Indian corn, which, where this is a staple crop, takes the place of hay for home consumption, and leaves the hay for market, if desired.

Fine crops of hay are made from cultivated grasses in all portions of the State, but the natural meadows are mostly in Piedmont, Blue Ridge, the Valley and Apalachia. The "Hay Map" of the Statistical Atlas of the United States shades these sections the same as it does most of Pennsylvania, West Virginia, Ohio, Indiana, Illinois,

Missouri, &c., and as more productive than most of Tennessee and Kentucky.

The perennial grasses of Piedmont, the Blue Ridge, the Valley and Apalachia, including the noted "blue grass," are famed for their nutritious and fattening qualities, and place these among the most highly favored grazing regions in the world. Nowhere, save on the great plains of Texas and the extreme West, or South America, can cattle be reared and fattened more cheaply than in these sections of Virginia, as has been proven by the investigations of the United States Department of Agriculture. The Valley leads in the production of hay and seeds; Piedmont follows. The meadows of the low country in Virginia have an advantage in the early "haying" time, and, where not too remote from the great cities, much profit can be gained by being early in market. Tidewater and Middle Virginia have many fine alluvial meadows, and the salt marshes of the former yield fine crops of hay and perpetual pastures.

The crops of clover and grass seeds are unusually large where they are made an object; the long seasons seem to give a larger yield of good seed. The first crop of clover for the year is generally cut for hay—it has so large a growth; and seed is taken from the less rank second growth.

Flax grows well in all portions of Virginia, though little attention is now given to its cultivation. The elevated mountain valleys suit it admirably.

Castor Beans are raised in considerable quantities, especially on the Eastern Shore of Tidewater.

The warm thin lands of Tidewater and the Middle country offer many advantages for growing *Garden Herbs* and *Perfumery Plants* and *Shrubs* on an extensive scale—the requisite heat and dryness of climate can there be found.

Hops are only raised for domestic use, except in a few cases. When planted the vines grow luxuriantly and bear well. Large areas of land, similar to the hop lands of Kent, in England, and to those of the State of New York, can be found in Virginia, and hop culture could be advantageously undertaken in many localities, to vary the industrial productions.

Ramie and *Jute*, most valuable textile plants, could without doubt be most advantageously and successfully cultivated on the deep and rich second bottoms and reclaimed swamp lands of Tidewater. Ramie is a perennial, and the stalks are cut three or four times in a year. Millions of bales of jute are now annually consumed in the manufacture of paper, gunny-bags, grain sacks, &c.

THE PRODUCTS OF THE FORESTS

of Virginia are large, varied and important.

Tidewater Virginia has extensive forests of pine (the noted yellow Virginia), oak, cypress, cedar, locust, &c., from which large quantities of sawed lumber and timber, staves, heading, hoop-poles, shingles, railway ties, fire wood, &c., are constantly shipped, very

often from the edges of the forests, since sailing vessels can penetrate all portions of the section—directly to all the seaboard markets of the country. Sumac is here an abundant shrub.

The Middle section has large areas of superior hard pine, black, white and other oaks, hickory, locust, persimmon, gum, cedar, holly, and other trees, from which much excellent lumber, tan bark, &c., are sent over the railways and canals that penetrate and cross it to various markets. Sassafras and sumac are plentiful, and the former could advantageously be made a staple crop on the ridge lands.

Piedmont has considerable forest land, with many varieties of oak, hickory, tulip-poplar, black walnut, locust, cedar, chestnut, pine, and other timber trees, but it can hardly be considered a source of supply for timber for exportation, save in a few localities. Sumac and sassafras abound.

The Blue Ridge is mostly covered with forests of oak, white, black, red, rock, &c., hickory, chestnut, locust, birch, some excellent yellow pines, and other trees. This section has furnished great quantities of charcoal for the manufacture of iron from the ores of its western margin, and it will long be a source of supply, so rapidly do its forests renew themselves. The timber supply of pine and other woods, for the eastern part of the Valley, is drawn from the Blue Ridge. Here is found much valuable hard wood, as hickory and oak, for wagon and agricultural implement making. This is yet to become a most important source of supply for oak tanbark to convert into quercitron for exportation, or to be used in the country for tanning. Almost any quantity of oak bark can be obtained from this extensive range.

The Valley has nearly half its surface covered by a growth of oaks, hickories and locusts, interspersed with black and white walnuts, yellow and other pines, all having a uniform age of 150 to 200 years. This timber, while not the largest, is of the very best quality, and no well-settled portion of the Union can offer a larger quantity of timber suitable for wagon, carriage, railroad car, cabinet and other work, for which hard, sound and durable woods are required. The slaty lands abound in sumac.

The Apalachian country is both rich and poor in forestal wealth. On the sandstone mountain ranges, and in the slate and shale valleys, the trees are small, but the growth is dense, consisting of oaks and other hard woods, pines, &c., good for charcoal, with larger trees in the hollows and more fertile spots. On the limestone ridges and adjacent valleys, as also in the calcareous and some shale valleys, on the other hand, the oaks, walnuts, white and yellow-tulip poplars, birches, beeches, locusts, cherries, sycamores and other timber trees, are found of a sound growth and very large size, often several feet in diameter, straight and without a limb for fifty to eighty feet from the ground. Only portions of this region have been reached by railroads; and extensive forests of the best of timber for nearly all purposes await the progress of internal improvements and future demands. There are some extensive forests of white pine and of the more common varieties of the fir tribe, but

generally the Coniferæ, suitable for timber, are not abundant in the forests of this section. It is fortunate that there is so much excellent coaling timber here in the vicinity of large deposits of easily fused ores of iron. It is from these mountain forests that ginseng, snake root, sarsaparilla and other medical plants are obtained.

Forest fruits, such as blackberries, whortleberries, cranberries, strawberries, dewberries, haws, persimmons, service berries, thorn and crab apples, wild plums and cherries, are found in boundless abundance in nearly all the unoccupied lands and in the forests of Virginia, where, in their season, they may be had for the picking, by any one that is inclined to gather them. Not only are thousands of bushels of these wild fruits annually gathered for home use and sale in home markets, but they are dried or canned for exportation, furnishing important and valuable articles of commerce.

Nuts are found in all sections, embracing chestnuts, chinquapins, black walnuts, white walnuts, or butter nuts, hickory nuts of several kinds, hazel nuts, beech nuts, acorns of many varieties, &c.

Animal Products.

The climate of Virginia is favorable for the growth and the products of its soil for the sustenance of animal life, consequently it has an abundant and vigorous native fauna on its land and in its waters. All the varieties of domestic animals reared in temperate climates have here found a congenial habitation, and excellent breeds of horses, mules, milch cows, working oxen, beef cattle, sheep, swine, goats and poultry abound in all sections of this State.

The cost of producing a given quantity of butter and cheese is much less in Virginia, owing to its milder climate and longer seasons, than in many other States of the Union. The statistics of production show the effects of elevation above the sea of portions of the State, giving them more adaptability to natural grasses and to the dairy business.

Sheep have always thriven in Virginia, and the wool here grown has an established reputation for excellence of quality. Wherever the business of rearing sheep, for wool or for mutton, has been judiciously conducted, it has proven remunerative. Few States have as many special adaptations for sheep husbandry—extensive areas of cheap, elevated lands, covered with natural grasses; broad plains suited for root culture; short winters and a comparatively dry climate, with nearness to markets.

Experience has shown that lambs can be raised in Virginia, in the spring, and sent to the great Northern markets long before they can be put there from the farms nearer; consequently good prices can be realized. The low priced lands of Tidewater and Middle Virginia are especially well situated for thus supplying early lambs, and large areas there are well adapted to the growing of swedes, mangolds, and other crops that are so extensively cultivated in England and elsewhere for fattening sheep.

Angora Goats have been successfully and profitably raised in Piedmont and Middle Virginia, furnishing large fleeces of the valuable cashmere wool.

Bees find in the sections of this State an abundant flora, and the long and comparatively dry seasons are peculiarly favorable for apiculture; especially does this seem to be the case in Piedmont, where large profits are reaped by those that have given some attention to this pleasant home industry.

Swine are easily and cheaply raised in all portions of Virginia, especially in the portions abounding in forests, where they subsist much of the year on the nuts of the beech, oak, chestnut, and other trees, at no cost to their owners; in fact; they are often fattened entirely on "mast." These animals can be reared more cheaply here than in almost any other part of the country; consequently they are kept in large numbers, and "Virginia bacon" has a valuable reputation in the markets. The climate is credited with aiding in the "cure" of hog meat.

Stock and Beef Cattle—the "other cattle" of the census—including all horned cattle, except milch cows and working oxen, are reared in large numbers in all parts of Virginia, but especially in Piedmont, the Blue Ridge, the Valley and Apalachia, where stock raising is an important and profitable branch of husbandry. Large numbers of fat cattle are annually sent to the Eastern markets from the rich grass lands of the sections named, especially from the portions where the nutritious and fattening "blue grass" grows. Many young stock cattle are also sold to the farmers of the country near the large cities where they are stall-fed.

There are vast tracts of mountain land in Virginia that furnish a "range" for young cattle, enabling the grazier to rear them at but little expense. These tracts of land are covered by a growth of timber, more or less heavy, beneath which is an undergrowth of rich-weed, wild grasses, &c., that are highly nutritious, and on which cattle can subsist from April to November. The stock raising capacity of the State can hardly be estimated, so great is it.

The *Seale* and *Shell Fish* of Virginia furnish not only a large portion of the animal food of thousands of the people of Virginia, especially in the Tidewater country, but immense numbers are taken from the waters of this and shipped to other States.

The thousands of square miles of Virginia territory covered by tidal waters abound, in the proper seasons, in shad, herring, rock, perch, sturgeon, sheep's-head, bass, chub, spots, hogfish, trout, tailor, Spanish mackerel and other fish, besides crabs, lobsters, terrapins, &c. The fishing season opens early, and while the waters near New York, Philadelphia, and other cities in a higher latitude are yet frozen, the shad and other spring fish can be caught in Virginia waters and sent to Northern and Northwestern markets, where they command high prices. Many of the fresh water streams of the State abound in many kinds of fish, and both the State and the United States authorities are stocking them with other varieties. No country has more or better streams for fish breeding.

Oysters are found in all the tributaries of Chesapeake Bay and along the Atlantic coast, giving to Tidewater an extensive territory where this valuable shell fish grows naturally and where it can be propagated and reared in almost any desired quantity.

An industry that is receiving some attention and will be largely developed, is the raising of oysters. For some years the supply of oysters from the Chesapeake has been growing less, and the demand increasing. Under the present system of depletion, the supply will soon be altogether inadequate to the demand, and prices will neces-

sarily be higher even than at present, and the man who has a well-stocked "oyster shore" can always find ready sale for all his oysters at good prices. There is little expense attending the business, and the difference between the cost of the oysters "bedded" when small, and the price realized for them as "cove" oysters a year or so afterwards, will leave a wide margin of profit. There is no reason why the artificial propagation of oysters should not be conducted on an extensive scale. In France there are oyster farms that pay an annual profit of $500 to $600 an acre.

Birds for food are abundant, especially water fowl, in the great marshes and rivers of Tidewater, where canvas-back, mallard, creek, red-head, bald-face, teal and other ducks, geese, swans, sora, &c., swarm abundantly. In all portions of the State are found partridges or quails, pigeons, wild doves, grouse or pheasants, wild turkeys, and other game birds.

Wild Deer are found in all portions of the State, especially in Tidewater and the Middle and Mountain sections.

The statistics give Virginia most ample resources of animal food, sufficient for a population many times as numerous as she now has. Nowhere is this kind of food better or cheaper.

This State has always been noted for the general excellence of the horses and mules bred in it, and it is well known that they can be reared cheaply in almost any section.

Mineral Wealth of Virginia.

By Gen. J. D. Imboden.

It is very difficult, within the limits of a publication like this, to present with anything like detail a fair statement of the enormous mineral resources of the State. For all practical purposes, they are boundless in extent, and their distribution is such as to warrant the assertion that before the close of the present century the aggregate product of our mines will surpass in value those of any other State in the Union.

Between the Atlantic coast and the western boundaries of the State, the whole "geological column" is represented, from the foundation granite to the capstones of the upper carboniferous. And in these successive strata are found the rocks and minerals peculiar to each all over the world, and usually in greater abundance and of greater excellence than anywhere else within the same area.

It would require the space of a large volume to indicate all the localities where these underground treasures are now known to exist, and to describe their specific qualities and estimate their quantities. We must, therefore, be content with a few general statements.

IRON ORES.

More than half the counties in the State contain mines of this invaluable mineral in ample quantities to give employment to thousands of men for ages yet to come.

The varieties in different localities are—

Magnetites (magnetic ore, so called because of its polarity, or mysterious power of attracting the magnetic needle).

Limonites (more commonly called brown hematite), and

Specular, or red hematite ore.

The *magnetites* abound in the Piedmont counties along the southeastern water-shed of the Blue Ridge, in the James River Valley, and in the high plateau counties of Floyd, Carroll and Grayson, drained by New River and tributaries. And in Smyth and Washington, and some others of the southwestern counties, a semi-magnetic ore is found of great excellence, but not usually stratified with the encasing rocks as the magnetites proper are generally found to

be. All these ores are of peculiar value, inasmuch as they are, almost without exception, so low in phosphorous as to be adapted to the manufacture of Bessemer steel, that is so fast superseding iron in all structural work.

The *hematites*, both brown and red, have a much wider distribution. The brown exists in every county between the head of Tidewater and the western boundaries of the State. They are most abundant west of the Blue Ridge, or rather on the western slopes of that range of mountains, and in the hills, mountains and valleys beyond, all the way from the Potomac to the Tennessee line. The quantity of this class of ore throughout all that region is beyond all computation. And where the railroads from the coal regions cross or penetrate this vast field of ore supply, and bring in the needed fuel for their reduction, large modern furnaces are springing up, and give assurance that at an early day Virginia will rank amongst the foremost States in this great industry.

The red hematites and fossil ores are chiefly found in the southwestern counties, beyond the Alleghany, where it merges in the Blue Ridge, a few miles west of Salem, in Roanoke county. The existence of these valuable ores in close proximity to coal and the magnetites of East Tennessee and Western North Carolina, are now attracting the most lively attention of Northern and foreign capitalists, with every indication that, within less than ten years, numerous short railroads will be built, as the necessary foundation for the inauguration of the business of Bessemer steel-making in that section of our State on a scale never before thought of in any part of the South.

COAL.

In the immediate vicinity of Richmond, lying on both sides of James River, the longest worked coal field in the United States exists. The coal is bituminous, and has long been esteemed as an excellent domestic fuel, and for foundry and blacksmith work, and the generation of steam. Coal was shipped from this field to Philadelphia before the Pennsylvania mines were worked. The field is from ten to twelve miles wide, and from thirty to forty in length, and in many places the seams are of enormous thickness. As a convenient supply to Richmond and towns and vessels on James River, this coal is an important element of wealth in the State.

Smaller but similar mines exist near Farmville, but have never been extensively worked.

In Botetourt, Pulaski, Montgomery and Wythe counties are somewhat extensive deposits of a semi-anthracite coal of local importance and value, furnishing a good domestic fuel. It is also used in the great zinc reduction works at Pulaski, and at the salt works in Washington county.

In Rockingham and Augusta counties are some irregular seams of true anthracite, but their extent and commercial value have not been determined.

The great Virginia coal field lies in the counties of Tazewell, Rus-

sell, Buchanan, Dickenson, Wise, Lee and Scott. In these counties from eight hundred to one thousand square miles are underlaid with numerous seams of as pure and rich bituminous and cannel coal as have been found in the world. The bituminous coals proper cover the whole area mentioned—the splint more than two-thirds of it, and the cannel coal a much smaller and as yet undetermined area. These coals are in the Lower and Middle productive measures. At Pocahontas, in Tazewell, where the mines now yield about one million tons per annum, only the Lower measures are worked, where a coal similar to that on New River, in West Virginia, is found in much larger seams than in West Virginia. In Russell, Buchanan, Dickenson, Wise, Lee and Scott, there are generally four, but in some places six seams of unsurpassed coal for all purposes, including coking coals that make a coke seven per cent. richer in carbon and freer from sulphur and ash than the celebrated Connellsville coke of Pennsylvania, and four per cent. better than the Alabama coke that is so rapidly building up a vast iron production in that State. Several railroads to and through this immense storage of the best fuel for metallurgical purposes, for gas production, steam and domestic use, are projected. The companies are organized, and there is every indication that within the next ten years the development in that section of the State will surpass anything in its history. The best of the iron ores above mentioned are in close proximity to these coals; and the agricultural resources of that part of the State are adequate to the support of an immense industrial population.

ZINC.

At Pulaski, on the Norfolk and Western Railroad, in Southwestern Virginia, are located the largest zinc works in the South, with a supply of ore ascertained to be millions of tons. In numerous other localities in the same section of the State, this valuable metal is found, and doubtless will lead to the erection of other works.

LEAD.

In Wythe county lead has been extensively mined for over one hundred years. At the present time the largest lead works in the South are carried on there, with apparently an exhaustless supply of ore. In the same section other mines of great value have been found, and measures are on foot to develope some of them. In Nelson county there is an old lead mine that seems only to have lacked capital to have become more valuable.

COPPER.

In Carroll, Floyd and Grayson counties, large veins of copper ores, sulphurets and carbonates exist, and prior to the war some of them were successfully worked. But their remoteness from railway lines has deterred capitalists from re-establishing these mining operations. There is some prospect that at an early day a railroad will

penetrate that region, and lead to the re-opening of these valuable mines.

In several of the Piedmont counties copper ores are known to exist, but the mines have never been operated, except in Loudoun, and Amherst, where much valuable ore has been raised and shipped to the North.

TIN.

In Rockbridge and Nelson counties, tin has been found, with indications that the mines are extensive. The quality of the ore has been ascertained by analysis to be excellent, and it is expected from the partial openings made, that the quantity will be sufficient to insure adequate capital for the full development of the mines.

MANGANESE.

This mineral is found widely disseminated in Virginia in the form of the black oxide, and as manganiferous iron ore. The most productive manganese mine now worked in the United States is that of the Crimora Company, in Augusta county, at the western base of the Blue Ridge, near Waynesboro'. Other deposits that are thought to be as large, have recently been brought to light within a few miles of Crimora, between the Shenandoah Valley railroad and the Blue Ridge.

GOLD.

There is a well defined *belt* of gold-bearing quartz running across the State through the counties of Prince William, Stafford, Spottsylvania, Louisa, Fluvanna, Goochland, Buckingham, Prince Edward, Charlotte and Halifax. In many places on this belt mines have been opened from time to time, and worked with profit and success. With the progress of scientific improvement in the extraction of gold, it may fairly be expected that gold mining in Virginia will become an extensive industry. This precious metal has also been found in Montgomery county. And in the Blue Ridge range of mountains, in Roanoke and Patrick counties, silver ores have recently been found that give promise of valuable results.

MICA AND PLUMBAGO.

In several of the counties near Richmond deposits of these minerals have been found, and to some extent worked with profit.

ASBESTOS AND STEATITE.

Asbestos of good quality and workable quantity exists in the counties lying between the upper James and the upper Dan rivers, at several places, notably in Pittsylvania, Henry and Patrick. Steatite (soapstone) of fine quality for resisting the most intense heat, is found in Amelia, Albemarle and some other counties of Middle and Piedmont Virginia.

KAOLIN AND FIRE CLAYS.

These valuable substances have been found in large quantities in many of the Piedmont counties, and in Augusta county, near the Blue Ridge. The latter deposit is extensively worked.

LIME AND CEMENT.

Metamorphic limestones exist in the valley of James River, between Richmond and Lynchburg. Silurian limestone extends from the Potomac to Tennessee, in great variety. Since the discovery that building-lime with a large percentage of the carbonate of magnesia, is a poor material to use in the mortar of large buildings and other permanent works of masonry and brick, peculiar value attaches to beds of pure carbonate of lime. Such beds fortunately exist at convenient localities in the great Shenandoah Valley, and lime-burning is already carried on there at two points—Riverton, in Warren county, and Eagle Rock, in Botetourt—where an article is produced entirely free from magnesia, and is in great demand for city work, where the sulphurous fumes of coal combustion are so destructive to magnesian-lime mortar. As this pure limestone exists in many places, the industry is a rapidly-growing and a profitable one.

Most excellent hydraulic cement has been produced for many years and in large quantity at Balcony Falls, in Rockbridge county. The stone is also found in Bedford, near Buford's Gap, but has not been utilized.

PLASTER (GYPSUM).

On the waters of the North Fork of Holston River, in the counties of Smyth and Washington, there are many miles in length of an immense ledge of gypsum, as pure as that brought from Nova Scotia. It has been penetrated to the depth of nearly 600 feet and no bottom found. We have here a quantity of this valuable fertilizer that is practically exhaustless for centuries to come.

SALT.

In conjunction with the above-mentioned plaster bank, the celebrated wells of salt exist, that have been used for about a century at Saltville, in Washington county, and during the late civil war supplied nearly the whole Confederacy east of the Mississippi with the indispensable article of salt of the greatest purity. No diminution in supply or quality has ever been detected. The production now is about half a million bushels annually.

MARL.

In many of the Tidewater counties enormous beds of blue and green sand marl and shells are found but a few feet below the sur-

face, supplying a fertilizing material at a nominal cost that is rapidly converting all that region into the garden spot of the continent for supplying the great cities of the Atlantic coast with table vegetables of the highest excellence, and is giving such importance to the peanut culture.

SULPHURET OF IRON (PYRITES).

Immense mines of pyrites are worked in Louisa county and the products shipped north for the use of sulphuric acid manufactories. So important has this industry become that branch railroads have been run to the mines from the main line of the Newport News and Mississippi Valley Railroad. Other large deposits exist in the mountain regions bordering on North Carolina, but needing a railroad for their development.

BARYTA.

Great quantities of this mineral have been shipped from the Valley and southwestern counties since the war.

BUILDING STONES.

Virginia probably stands first amongst the States in the variety and beauty of her building stones, beginning with her granites and slates in eastern Virginia and extending to her limestones in the west, her brownstones in several eastern counties, her marbles in Loudoun, Rockingham, Augusta, Rockbridge, Bedford, Russell and Scott counties, and ending with the beautiful sandstones of the southwestern coalfield in half a dozen counties. This merely cursory glance at our mineral resources is all that we have space for. The cabinet of specimens being collected by the Department of Agriculture, at Richmond, will bear out and illustrate the text of this report in a most striking manner to the eye of any stranger who will call and examine it.

TIMBER RESOURCES OF VIRGINIA.

The *great* timber regions of the State are located at its opposite extremes. The Dismal Swamp forests have been "a mine of wealth" to their owners since the war. From Suffolk two narrow gauge roads have been built through these forests for the sole purpose of hauling out the lumber from numerous saw-mills. Pine and cypress predominate in that section. Nearly all the south side counties lying between the James river and North Carolina are productive of large quantities of excellent pine and white oak lumber. As we approach the Blue Ridge the pine gives place to the hard woods. The forests of Franklin, Henry and Patrick are valuable, even up to the summit of the mountains, and lumbermen have found their way in there, cutting black walnut, poplar, white oak, ash and hickory. All over eastern Virginia the black and red oaks grow, and

have supplied, and for a long time will continue to furnish, large quantities of bark for tanning purposes. In the Shenandoah Valley, except along the slopes of its bordering mountains there is no great quantity of lumber to be had ; but in the mountains lying west of the valley there is a great deal of valuable hard wood timber still standing. But *the* timber region *par excellence* of the State is in the southwest. In the counties of Buchanan, Dickenson and Wise the forests are immense. The population is sparse, and the timber is so heavy that clearing the land is difficult. Hence the opened farms are far apart, and are, as a rule, mere patches in the wilderness of trees. Black walnut, poplar, chestnut, hickory, maple, ash, white oak, black oak, chestnut oak, beech, birch, sugar and red maples, and some hemlock in the dark hollows are the trees one meets with. Sometimes a spot of a few hundred acres is found covered with wild cherry. All the trees mentioned attain an enormous size in these forests. All the other counties of the southwest abound in the same kind of timber, but generally there has been much more clearing done, especially of the fertile grazing lands along the rivers and smaller water courses than in the three counties mentioned. Still their hills and mountains are clad with dense forests of nearly all the trees named. The southeastern end of Washington county, which extends to the summit of the great Iron Mountain, contains 50,000 to 100,000 acres of white pine in its virgin state. At least half of this area is covered with trees of white pine of great size and value. A railroad through that section, either along the western base of the mountain or across the white pine belt from Grayson county through a gap in the mountain to Bristol-Goodson, Washington county, would open up this valuable forest to the lumberman.

It may be said in conclusion, under this head, that no State in the Union is better supplied with timber for its uses in all sections and with a very large surplus for export from many localities than Virginia. This fact is attracting wide-spread attention and is having no small influence in attracting population and capital to the State since the forests of the great northwest are approaching exhaustion.

Further Information.

For the information of those looking to Virginia as a home, in addition to the general advantages of geographical position, climate, variety of soil and health, attention is called to the facts hereinafter set out, and which are furnished by the Commissioner of Agriculture, and have been published by him in his Annual Report, and rest on most reliable evidence.

MINERAL RESOURCES OF VIRGINIA.

The minerals are so varied and so widespread as to compel only a casual mention. The Tidewater region along its rivers is underlaid with beds of green sand other marls and that is unrivalled in fertilizing effect on the adjacent lands, and is so valuable as in some instances to bear transportation.

Stretching across Middle Virginia, from northeast to southwest, is a gold belt, where from the early ages of the country mining for gold has been profitable, and is still to some extent pursued, though the larger profits from the farm and the greater rate of return from other mining and manufacturing pursuits, have dwarfed this one.

Iron is found in inexhaustible quantities along the whole extent of the Blue Ridge, and its outstanding spars and ranges. In many places in the Valley, Southwest Virginia, and among the western mountains, these deposits are not only so large as to defy exhaustion, but are of a richness and variety of ore no where found in the United States—embracing every variety of iron, and found too in close proximity to coal that produces coke of the most superior quality, manganese for the production of the Bessemer varieties, and limestone in illimitable quantities.

The coal-fields of Virginia are of wider extent, comprising a greater variety of coal, and are more cheaply mined, than those of any part of the world except West Virginia.

Besides gold, iron and coal, Virginia produces in quantities sulphur, lime, plaster, salt, baytes, ochre, mica, slate, soapstone, marble, brownstone, granite, manganese, kaolin, earth paints, cement, marls, pipe clay, fire-brick, &c.

TIMBERS.—Though large portions of the best lands have been cleared, there are still large bodies of fine original growth of cy-

press, pine, oaks of all kinds, hickory, walnut, cherry, cucumber, chestnut, maple and sycamore, and all the woods that grow in this climate, the growth being more varied here than in most States by reason of the greater variety of soil and exposure.

Mining and manufacturing have made large strides here in the last ten years; the increase in the capital employed in them in that time amounting to forty million dollars.

FRUIT.

In the last year there has been a great increase in the planting of fruit and the erection of canneries. The increase in the preparation for producing and canning peaches and berries and the evaporation of apples is very great, and the exhibition of fruit at the Exposition has astounded those unacquainted with the fruit sections. It is now an established fact, that Virginia has the greatest range of fruit production of any State in the Union. Her tidewaters and southern borders in fruits and berries can vie with States bordering on the tropics while her grand mountain range reaching down into Piedmont Virginia, furnish many winter apples rivaling New England and New York in their own native and choicest varieties. All the fruits, and nearly everywhere, grow well in Virginia, and there are very many instances of reasonable fortunes made in fruit-growing. The vineyards and wines of Piedmont, and especially of Albemarle, have become a great industry with a national reputation, and the display of several of the counties at the Exposition of grapes and choice home-made wines satisfied visitors from other States that Virginia can profitably grow grapes for the table and the wine-cellar.

DAIRYING.

It is no longer a question for debate whether Virginia can profitably be a dairy State. The entire country from Tidewater to the Alleghany mountains has all the elements and can abundantly produce everything necessary to the production of the best milk and butter in the largest quantity and of the best quality; while yet her creameries are in their infancy, they are shipping their products at a good profit to Toledo, Ohio, New York, Baltimore and Washington, where they compete with the Elgin, New York and Pennsylvania creameries; while the open field of the south lies invitingly before them and promises in the near future an ample return for this industry.

To those who would engage in horse, cattle and sheep raising, the short winters, early springs, tight sods, good grasses, cheap lands, fresh running water, which does not have to be kept open by cutting ice in the winter, and nearness to Eastern markets which rule prices, present advantages which cannot be ignored.

LABOR.

The farm and mining labor in Virginia is cheaper, more easily supervised, more contented and less liable to strikes and interrup-

tions than that of any northern or western State. There has never been a strike in manufacturing or mining operations in the State. The average price of farm labor for fifty-two counties reporting to the Commissioner of Agriculture is $9.90 per month and about 50 cents per day; board or rations furnished by the employer.

PROFITS FROM FARMING IN VIRGINIA.

From careful calculations and reports from entirely reliable sources, which have been collated, the returns from money invested in farming in Virginia amount on good lands, where the farmer lives upon it and gives it his individual and close attention, from 8 to 12 per cent.; on poorer lands, from 4 to 8 per cent.; these figures have been arrived at by taking numbers of farms in different parts of the State, and putting them first on a central basis, taking the landlord's share and putting it into money at the fair usual market value; and then another plan was followed, giving the owner credit for all sales of crops and charging him with all expenditures in making said crops and striking the balance; a reasonable, but small country house rent was allowed and the cost of such farm products consumed as would have been purchased and consumed if in other business. This result, which to many in the north and west where the return is not nearly so large, is due in part to the following causes:

1. Smaller price of lands. Lands can be bought here which in the hands of northern and western farmers can and have been made to produce equal crops to those produced by the same parties on lands, which bring in the market from 100 to 500 per cent. more money.

2. Advantages of climate, giving shorter feeding season, and as the feeding season is the expensive season with stock, less expense; then, too, the stock comes out in the spring nearly a month earlier, and is progressing towards market, while the stock of the northern and western farmer is going back day by day, as the last month in winter is proverbially the trying one on stock.

Another advantage in climate is the early market given for lambs, truck, &c.

3. Advantages of proximity to market. We are not only hundreds of miles nearer market, but our geographical formation gives us 1,500 miles of tidal shore, which means water transportation larger than that of any State and therefore cheaper.

4. Advantages of price of labor. Having to pay not more than half as much for labor as our western neighbors, our products cost *pro tanto* less than theirs.

5. Our taxes are less than those of any of the western States, amounting all told, county, school, road and State to less in many counties than one doller in the hundred and ranging from 80 cents to $1.15 on the hundred.

These reasons will amply account for a fact not at once easily understood by persons who do not look below the surface, and which will be abundantly verified by the instances hereinafter set out.

SOMETHING ABOUT THE OLD DOMINION.

VIRGINIA.

Description, Resources—A Good Field for Investment.

Copied from "DETROIT FREE PRESS."

Virginia lies in latitude 36° 33′ to 39° 27′ north, corresponding to Southern Europe, Central Asia, Southern Japan and California, and is bordered by the Atlantic for 125 miles. It has a land surface of 40,125 square miles, and water surface 2,325. Population in 1880 of 1.512,565, or an average of 38 to the square mile; of this number 880,858 were white; 631,615 colored.

There are six natural grand divisions or belts extending across the country from northeast to southwest, following the trend of the Atlantic coast and the Appalachian system of mountains. These rise from the sea level by gradual gradations or steps to the heads of the valleys in the Appalachian divisions, which have an altitude, above tide, of 2,000 to 2,800 feet.

The first of these is known as Tidewater Virginia. This embraces the portion lying upon the Ocean and the Chesapeake Bay and its tributaries, reaching as far inland as the tide rises, making an irregular quadrilateral, averaging 114 miles in length from north to south, and 90 in width from east to west, an area of about 11,000 square miles. This is truly a tidewater region, since every particle of it is penetrated by the tidal waters of the Chesapeake Bay and its rivers, creeks, bays, inlets, etc., which give about 1,500 miles of tidal shore line, and the Chesapeake Bay and the channel twelve miles wide between the Virginia Capes, furnishes the outlet for 50,000 square miles of water drainage.

The soil of this tidewater plain, nearly 100 miles wide, and rising in three successive terraces to a height of 150 feet, varies from the rich alluvials and river bottoms and the salt-water meadows, to the plains, upland slopes and ridges, with a moderate proportion of "poeoson," or swamp land. The first three of these are unsurpassed in fertility and adaptation to truck and market gardening,

while the plains, uplands and ridges, though thinner and in some cases worn, are easily reclaimed and improved, and by reason of the underlying marl and the great abundance of oyster-shells and refuse fish, are readily made to produce well and give handsome returns to the trucker, corn and peanut growers, and to the sheep raiser, as an advantage of one month in the season, by reason of the climate, gives the trucker, who nowhere is ten miles from water transportation, control of the Baltimore, Philadelphia, New York and Boston markets, from the farthest of which he is not over thirty-six hours, for fully a month at the season when prices are highest and, therefore, profits greatest.

The next of these divisions is called, for convenience, Middle Virginia, and reaches in a parallel belt across the State, from the Tidewater belt to the outlying spurs of the Blue Ridge. Its general form is a large right-angled triangle, with an area of about 12,470 square miles; it is a great moderately undulating plain, from 25 to 100 miles wide, and rising from the rocky verge of its eastern line at the head of tide, from 150 to 200 feet above tide, to 300 to 500 at its western border.

The soil of this division takes its character from its rocks, gneiss—a combination of quartz and feldspar—it is underlaid with granite which crops out along the eastern line where it meets the tidewater section, giving the famous Richmond granite, equal to any in the world, and in inexhaustible quantities. Along the streams it is very rich, producing corn, wheat, tobacco, and all the crops and fruits of the latitude. The hills vary from very thin to better quality, where the rock is more readily decomposed, and some sections of this belt, in its uplands as well as its bottoms, are very fertile. It is easily worked, and readily responds to the use of fertilizers.

Piedmont is the next division, stretching from the Potomac on the north, to the North Carolina line on the south, along the eastern base of the Blue Ridge, having an average width of twenty-five miles, and lying between the detached spurs, known as the coast range, and the Blue Ridge. It has an elevation on its eastern border of from 300 to 500 feet, gradually rising until, at the foot of the ridge, on its western border, it attains an elevation of from 600 to 1,200 feet.

The soil of this section, formed from the disintegration of its rocks, is something similar to that of Middle Virginia, but the gneiss here contains, generally, not much mica, but more or less chlorite, and very often horneblende and iron pyrites, the latter a powerful agent in decomposing rocks, and, with the horneblende, giving a red hue to the soil, from which it is often called the "Redland" district—it is of a stronger character, and is very prolific in corn and heavy "shipping tobacco," and brings fine crops of wheat. This land takes kindly to grass, and, if in proper condition, will coat itself with fine natural grasses. Timothy, clover and orchard grass here are very prolific. This is the natural wine belt of that part of the Continent east of the Rockies, and wine from the Monticello cellars, at Charlottesville, carried off the prize at the Paris

and New Orleans Expositions. Apples grow splendidly here, and the Albemarle Pippin has a reputation on both sides of the Atlantic. The elegant water, fresh grasses and heavy grain crops make this region fine for dairying, and this industry is largely patronized and is proving very remunerative.

The Blue Ridge division embraces the strip occupied by this range, extending across the State parallel to the coast, and spreading out in a fan-shape on its southwest end, to a breadth of twenty miles, where the mountain seems to be flattened out, and the soil is rich and of a stiff clay, taking and holding grass, and is the natural home of the stock raiser, the soil producing, when cleared of trees, the far-famed "blue grass," equal to grain in fattening and superior in growing cattle. Here, too, is grown large quantities of grain and hay. The bowels of the earth are filled with the finest coal, and the surface, where it has not been stripped, with a heavy growth of the finest lumber—oak, hickory, chestnut, walnut, cherry, pine, hemlock, cedar; etc. The whole length of the Blue Ridge is permeated with veins of the finest iron ore, manganese and other minerals, and furnaces are rapidly rising all along its base, which are turning out iron several dollars cheaper than it can be made in Pennsylvania. The salt and gypsum basins of the southwest furnish an abundant supply of salt and gypsum for all the country round about.

The Valley of Virginia embraces that belt lying between the Blue Ridge on the east, and the first of the outlying mountains on the west, and has an average width of some twenty miles. There are five different valleys that, taken together, comprise this grand division. The Valley of the Shenandoah, 136 miles long; James River, 50 miles; Roanoke River, 38 miles; New River, 54 miles; Holston and Tennessee, 52 miles. The soil is generally of limestone foundation and unsurpassed fertility, being similar to that of Lancaster Co., Pa., where lands sell from $200 to $300 per acre. Its productions are wheat, corn, rye, oats, barley, and all the grasses. Besides farming proper, which is very profitable here, raising and fattening cattle and sheep for market is largely and profitably followed. Butter-making is beginning to be a profitable industry, and the creameries springing up in this section have successfully competed, as to quality of butter and price, in New York market, with the best product of the Elgin butter makers. All the fruits of the latitude grow and produce well here, and the sunny slopes of the mountains on the west invite to successful fruit and wine growing. The fine quality of the lands of this section has denuded the greater portion of the surplus timber, but an abundant supply for the lumberman clothes the slopes of the mountain on either side. This section has two railroads running nearly parallel through the entire length, and is crossed from east to west by five different lines. Marble, kaolin, manganese and hematite iron ores are found liberally distributed, while anthracite coal is found all along its western barrier. The Valley has an elevation ranging from Harper's Ferry, where the Potomac and Shenandoah unite and break through the Blue Ridge, of 242 to 2,594 feet, and its western side being from

500 to 1,000 feet above its eastern, presents its whole surface held up at an angle to the sun. Its drainage and water-power are unsurpassed.

Appalachia is a belt of country directly west of the Valley, 260 miles from northeast to southwest, and varies from ten to fifty miles in width. It is traversed by parallel ranges of mountains, with narrow, fertile valleys between, and embraces some 5,720 square miles. These mountains are filled with the richest of iron ores, and covered with a growth of oak, chestnut, hickory, walnut, cherry, poplar, cucumber and other valuable lumber. The soil on some of these mountains is worthless, but on many others, and especially where there is limestone, and where the sandstone is mixed with iron, is very fertile, the famous blue grass coming wherever the trees are belted, deadened or cut down, and affording the finest cattle grazing and ranging known, as its elevation makes it pleasant in the warmest weather, and frees it from gnats and flies, and its soft, cool and healthful water bursts from every hollow in the mountain sides. The valleys furnish hay for wintering and grass for summer grazing for cattle that weigh, at 3 and 4 years, 1,200 to 1,600 pounds, and supply, in part, the demand for cattle to ship to the English market.

Virginia lies in the region of middle latitudes, and is entitled to a mild climate, but there are other and intervening causes that give her great advantages over other sections in the same belt. The Appalachian chain that stretches along her western border shelters her against the storms that rise in the great west and northwest, and gathering force as they go, carry death and destruction in their path; if of cold, freezing the hapless stock and chilling the heart and energies of the settlers: if of wind, prostrating forest and dwelling in their path, and making the death mark broad and deep for man and beast in their track—against these rock-ribbed barriers they beat in vain, and turn to the northeast or the southwest, as the case may be. The projecting capes along the North Carolina coast, reaching out as natural breakwaters, turn the storms born on the ocean and cradled in its waves, away from our coasts, to break on the shore of New England and Nova Scotia, while the navies of the world can ride at safe anchor inside the capes of Virginia.

Fifty miles out from her shores the Gulf Stream supplies a constant heating apparatus, miles in width, and the eastern winds, warmed by it, take up their loads of moisture and, floating inward and upward, as the land rises from tidewater to Appalachia, deposit in gentle showers the moisture and heat that warm and gladden and fructify the earth, and as the gradual rise brings these clouds into a cooler atmosphere, they deposit additional portions, until the lofty Alleghanies, with their timbered tops, milk them dry.

The average temperature for eleven different points in Virginia during the months of January and July, was, for January, 42°, for July, 78°—the highest of these being 47° and 83°, and the lowest 37° and 74°; while for the same period for St. Paul it was 14° and 73°; St. Louis, 33° and 77°. Cincinnati, 33° and 76°—the last two in the same belt with Virginia; Boston, 25° and 72°; Charleston,

S. C., 48° and 80°; Washington, D. C., 35° and 78°; Fort Snelling, 13° and 73°—this difference in temperature has two phases of advantage: it gives a longer season for work and more comfort while working, and at the same time gives the advantage of at least a month in the lamb, fish and vegetable market, in the northern cities, at the season when prices are best. Of the prevailing winds, those that blow from the south quadrant, are to those that blow from the north quadrant, as six to four.

Virginia lies in the belt in which the annual precipitation is from thirty-two to forty-two inches of rain, and the tables show that this precipitation is well distributed, moderate in April and early May, planting time, more abundant in later May and early June, growing time, less in late June and July, harvest time, and more abundant in October and November, after seeding.

The healthfulness of the climate is what might be expected from exemptions from storms and extremes of heat and cold, and from a well distributed rainfall.

Selecting the period of from 21 to 24 years of age, Virginia, out of 100,000, had 7,476; the average for the United States was 7,475; Maryland, 7,202; New Hampshire, 7,071; New York, 7,059; Illinois, 7,367; North Carolina, 6,840. In the period of 50 to 54, Virginia had 3,580; Illinois, 3,228; Kentucky, 3,089; and the United States, 3,548. From 75 to 79, Virginia had 525; United States, 455; Maryland, 458; Kentucky, 388; North Carolina, 464; Tennessee, 358; Texas, 169; and Pennsylvania, 15. From 90 to 99, Virginia had 81; United States, 43. Of those over 100, Virginia, had 19; United States, 9; Connecticut, 4; Massachusetts, 3; Pennsylvania, 3; and New York, 4.

Virginia has a system of public schools unsurpassed by any of the States, and which has its foundation both in the Constitution of the State and affection of the people. The moral tone of the people is seen in there being less than nine convictions during the year for 10,000 of population, and only ten in 10,000 held in jail, mostly for minor offenses. Only 317 out of every 10,000 were the recipients of public charity. This record compares favorably with any country in the world.

These lands may be bought from $2 to $50 per acre, and a warm welcome awaits all comers of good character, of whatever country, politics or religion.

A NORTHERN MAN'S EXPERIENCE IN VIRGINIA FARMING.

Editor Southern Planter and Farmer:

According to promise, I write you this letter; and as I do not set myself up as a leader in the noble pursuit of agriculture, I think perhaps you, as well as the readers of your valuable journal, will be more interested if I give you my views of Virginia farming from a Northern standpoint.

I located in Virginia immediately after the war, and purchased a

farm in the upper James River Valley twelve years ago this spring, and have been actively engaged in agricultural pursuits ever since. My first purchase was of a farm of 300 acres, for which I paid five dollars per acre. It is located about two miles back from the river; had no fences or buildings on it of any kind, the dwelling having been burned some years before. It was what is called here a poor worn-out farm, but was a very nice gray and chocolate soil, with an excellent red-clay subsoil. By way of encouragement, my neighbors told me I would starve on *that* farm.

One-half the land was in forest and second-growth timber; the balance more or less grown up in bushes. I first grubbed and cleared up about ten acres, put it in corn, and got a very good crop. I then followed the corn with wheat, which was my first crop of that staple. The field averaged at least twenty bushels per acre, and I sold it in Richmond market for $2 per bushel. Thus you see my gross receipts were nearly $40 per acre. I used not a particle of manure or fertilizer on either the corn or wheat crop. I think that was doing well on land that only cost $5 per acre; and I told my neighbors if that was the way I was going to starve to death, I would like to get some more such land to starve on.

I attribute the large yield of corn and wheat simply to deep plowing. I plowed from eight to ten acres, and turned up soil that had not been reached for years before, if ever.

Before purchasing a farm in Virginia I had Kansas or Western fever, and intended to go West; but, fortunately, I was speaking to a friend one day of my intention, and he advised me by all means not to go West—that he had a brother in Kansas, and that about every other year he was writing him for aid to keep himself and family from starvation. One year his crops and buildings were destroyed by drouth and fire; another year the grasshoppers destroyed all vegetation; and a third calamity, a cyclone, had laid waste all his buildings, etc. But out of the twelve years that I have farmed in Virginia there has been no destruction of crops and buildings from grasshoppers, wind or hail, and not a single drouth has prevented me from making a very fair crop. This has been the worst of all seasons, and the damage this year has been principally on the corn crop.

What Virginia wants is a good industrious farmer on every 100 acres; for high farming pays as well here as in any State in the Union.

My experience in Virginia farming convinces me that the mildness of the climate will enable a farmer to do almost double the work through the year, with the same force of team and hands, that can be done in the colder States of the North and West. Besides, the length of the season will enable one to make two crops on the same land in one year, if he chooses.

I am also convinced that for stock-raising this upper James River Valley cannot be excelled. It is abundantly watered with never-failing streams, and springs of pure, cold, soft water; and some years stock will do well to run out all winter without being fed or housed. And the grasses, such as white clover and blue grass, are

indigenous to the soil; and as fine crops of clover and timothy are raised here as can be grown in New York or Pennsylvania.

Why people from the North and East continue to go West for farming lands, when they can get them equally as cheap in Virginia (in many instances for less than the improvements on them cost), and not more than a day's ride from their present homes, is more than I can understand. Admit, for argument's sake, that the virgin soil of the West is more fertile than the lands in Virginia. Will that make up for the entire absence of forest for fuel or building material, sluggish or shallow streams, no brooks made up from springs, rough state of society, lack of schools and churches, high price of farm labor, and the difficulty of procuring female employees, to say nothing of climate, society, market, etc.? Surely not. And I am satisfied of the fact that it will cost less to restore the lands of Virginia, when they are badly worn, than it will to clear up a new place in the West and get it ready for production.

But under the old system of farming in Virginia the lands never have attained one-third of their productive capacity, and one can scarcely form any estimate of their powers of production. Although Virginia has always ranked high as an agricultural State, I predict for her one of the brightest futures in agricultural prosperity that can be imagined.

W. A. Parsons.

VIRGINIA AS SEEN BY A MICHIGANDER.

Extract from a letter written by W. H. Marvin, editor of Utica *Sentinel* (Mich.), from Richmond, Va., June 30, 1888, to his paper:

"We next went in search of Matthew Cross, formerly a resident of McComb county, Michigan, who lives on a farm about five miles from Richmond.

"The walking being very good, and wishing to stop and talk with every one whom we might meet on the road, or see walking in the fields near by, we started out on foot.

"We found Matthew and his family on one of the best 160-acre farms we ever saw, but no better (naturally) than dozens of others right around him, which can be had for $20 to $25 per acre. His house is of the regular Southern build, with chimneys all built outside, there being at least 5,000 bricks in each of the four chimneys; and it is just a good sized house, too. The farm is producing good crops, everything growing in abundance; has one of the finest streams of water running through it we ever saw.

"Matthew keeps six or eight first-class milch cows, and contracts all the butter he makes at 30 cents per pound the year round. He also got 20 cents per dozen for his eggs the week we were there (June).

"Hay is never less than $16 per ton, and straw never brings less than 60 cents per hundred pounds. Hay and straw bring such

prices that the Southern farmer must always sell them, thereby impoverishering his land: but Matthew, with the true Northern thrift, has not sold a spear of hay or straw during the four years he has been there, but, on the contrary, feeds it all to his stock, and then puts the manure on his lands; in addition, dresses heavily, the result being that in about four years time he has one of the most productive farms in the United States, even though his farm was called 'worn-out tobacco land,' and beyond ever being made anything of, though manured and fertilized for a life-time. This fallacy has proven to be mere prejudice.

"We called on several Northern families living in the vicinity, who were right glad to see us; also several Southerners, and they treated us with the greatest of cordiality—say they wished there were more Northern folks living among them."

LETTER FROM A FORMER CITIZEN OF IOWA—NOW A FARMER IN PRINCE EDWARD.

Becoming tired of the rigors of the Northwestern winters, and not possessing the best of health, I, in company with my father, concluded to emigrate to the Sunny South. So, in 1877, we left Hardin county, Iowa, and came to Virginia and purchased a farm of 350 acres one and a half miles from Hampden-Sidney College, Prince Edward county. It cost us about what the buildings were worth. The highlands were badly worn out, having been rented out since the close of the war, and nearly everything carried off the place and not much returned to the soil. The soil having a good clay sub-soil, we thought it could be made to produce remunerative crops if the land was properly cared for. Our hopes have been fully verified. The past season we have raised very good crops of wheat, rye, oats, sweet and Irish potatoes, sorghum and tobacco. To improve land we have kept all the stock the farm would carry, depending principally on the manure for improving the land. The stock are kept under shelter during the winter and kept well bedded with forest leaves, straw, &c., to make all the manure possible. As soon as a field is improved sufficiently, it is seeded down to clover and grass, in rotation. The past season we have cut two heavy crops of clover, and the third has made good grazing.

The soil of this section is of several varieties—dark and light gray sandy soil, red clay, mulatto color, &c. The bottom lands are alluvial and produce good crops of corn, and are kept fertile by the winter overflows of the streams.

We have met with a warmer welcome by the white people than we expected we would have, and I think all good Northern people will be welcome here.

When we came here we concluded that the people were about fifty years behind the North in nearly all branches of business, but since then considerable advancement has been made; especially is this the case with the public school system. The State Normal school at

Farmville affords a splendid opportunity for educating female teachers, and the ladies are availing themselves of the opportunity. Steam threshing machines are taking the place of the old groundhog, the reaper and mower of the cradle and scythe; so the good work goes bravely on.

HIRAM CALKINS.

LETTER FROM A RECENT VISITOR TO VIRGINIA.

From Shenandoah Valley Monthly Dispatch, Middleton, Va.

Ed. Dispatch:—Some people of the North labor under the impression that all Southern people are, in common parlance, 'Terrors let loose.' All people are liable to make little mistakes, but this is an *immensely large* one. On my recent visit to the Shenandoah Valley, I found that they are most courteous, hospitable, honest, open-handed and large-hearted people. Every grasp of their hands denotes that the words of welcome come from low down deep in good and honest hearts. If a man is what a man should be, the people of Virginia are a most noble people for him to locate and dwell with, no matter what part of the world he may come from.—They are not afraid to mention a man's standing in the community, and recommend him to the confidence of strangers if he is trustworthy. On the other hand, if there is a rascal among them—and of course there are some, for they are everywhere—the straight forward business man don't hesitate to tell strangers of it, and to warn them of his unreliability. The great majority of men there, in both city and country, are upright, brave men, and can generally guess pretty closely to the kind of man a coat has in it. They are courteous to all gentlemen; they know an insult, and are not afraid to resent it. They are just the kind of people that an upright, enterprising man of any country likes to associate with.

Capital and enterprise are wanted, but let not the impression be gained that these essentials are not to be found there, for they are abundant in proportion to the population, but there is room and opportunity for immense quantities more. The mineral fields want millions of dollars and thousands of strong men to place their sleeping wealth in the markets of the world.—Those sections best adapted to agriculture and stock raising want thousands of men with lots of enterprise, practical experience and some money to develop and cultivate the land and make the thousands of hills the home of fine herds of cattle and sheep, with the products of the farms to feed those bringing wealth out of the mines and quarries. Then various manufactories will be wanted to prepare the surplus products for market and for home use. Other parts of the world want all these products now slumbering in the possibilities of that section. The enterprising people of the Valley of Virginia are fully aware that their country wants those features just mentioned, and they are ready to welcome enterprise, capital and practical experience, no

matter where it comes from, whether it be the east, west, north or south. They are ready and anxious to join hands with and help and encourage whatever agencies may come to aid them in developing the great resources of that section.

HALIFAX C. H., VA., Jan. 22, 1879.

DR. THOMAS POLLARD,

Commissioner of Agriculture, Richmond, Va.

Dear Sir,—Please accept my thanks for your kindness in sending me your valuable "Treatise on the Hog," also your Second Annual Report, both of which I have read with pleasure and profit, and feel assured their dissemination will be productive of beneficial results. Not having the honor of your personal acquaintance, yet realizing your love and zeal for the prosperity and growth of the agricultural interests of Virginia, I deem it my duty, as well as pleasure, to give you a brief account of my antecedents, and the inducements I had in moving my family and adopting your State as my future home.

I have now been a resident of your State fourteen months, arriving here in November, 1877, and purchasing an estate of 365 acres. The preceding twenty-five years I had been a resident of New York city, and engaged in mercantile pursuits. As you are aware, families desirous of changing a city for a country life, the proper and fashionable thing to do is to go West, and I did go West as far as Nebraska. I was particularly pleased with portions of Iowa and Eastern Nebraska; first-class farming lands, limitless in extent, to be found in both, but the entire absence of forests; no fuel nor building material on the ground; sluggish and shallow streams; no brooks made up from springs; the sparsity of settlers; lack of schools and churches; high price of labor, and the difficulty of procuring female labor, and their aversion to be considered in the light of servants, but in order to retain their services, must have the rights and privileges of one of the family, rendered it so objectionable that I concluded to look elsewhere.

After my Western trip, I was induced by friends to travel through Virginia, and after looking about pretty thoroughly, made up my mind to purchase and settle here, and thus far we do not regret the move, and feel assured, all things considered, we could not have done better.

First. We have a large dwelling-house, all the necessary outbuildings, orchard, fruit and flower garden, arable and timbered lands well watered, and numerous springs, good fences around the entire tract, at a less price per acre, including the improvements, than the bare prairie can be purchased for in the favored sections of Iowa and Nebraska.

Second. We find ourselves within walking distance ($\frac{3}{4}$ mile) of churches and schools, both public and private.

Third. We find good help, both male and female, at less than half the price demanded at the North and West, and perfectly will-

ing to be treated and considered as hired servants, and, as far as I have discovered, equally capable.

Fourth. We have cultivated and refined society in our neighborhood, who have shown us every kindness and attention, and are anxious to enlist northern capital and energy to dwell among them.

Fifth. The taxes on real and personal property are very light, being not one-eighth of the amount levied in and about New York city, and not over one-half of the amount levied on farms in Nebraska.

Sixth. The climate is mild and healthful, not subject to the extremes of heat and cold as in the Northwest, and having longer seasons for agricultural labor.

Seventh. To sum up: Families desirous of securing homes in the country can purchase here at less price than at the West, and instead of having the *bare prairie*, with no improvements, get improved farms with the many necessaries and comforts of life.

Please excuse this lengthy letter, and allow me to remain,

Yours truly,

JOHN H. STEVENS.

SALT WATER SECTION.

By consulting any good large map of Virginia, one will readily see that the eastern part of the State is all cut up by the Chesapeake and its tributaries. This rough and ragged appearance may at first be thought to be detrimental to the agricultural development of this section, but this is far from being the case. It is, instead, its finest and greatest advantage. The eastern part of the State has many streams of water—the Potomac, Rappahannock, Piankatank, York and James rivers being the principal ones, but there are scores of other smaller ones tributary to these larger ones. These streams for say about fifty miles from their mouths, are all salt and well supplied with salt water products—fish, oysters, crabs, clams, &c. There are no less than nine large and several smaller peninsulas in Eastern Virginia.

It gives this portion of the State over 1,000 miles of salt water frontage, and enables all the farmers on this extended salt water front to not only profit from the salt water products, but also to cheaply float their farm products to market.

The means of communication with the cities is mainly by boats. Nearly every farmer has a sail-boat and a row-boat or two for pleasure and for business. It is, in short, the "Venice" of America, and right here on these beautiful arms of the sea is to be developed in the next quarter of a century the finest agricultural section in the Union. The soil, the water, the air, the sunshine, the rainfall, the markets, the transportation, and hundreds of other things, are all in favor of this grand development. Nature has been most bountiful in her gifts here. Man only needs to do his duty to make a paradise of Eastern Virginia. In consulting Wm. F. Switzler's Government Report of the Internal Commerce of the

United States for the year 1885, we see that Eastern Virginia raised $1,609,663 worth of orchard products; that the same section raised $2,518,055 worth of peanuts; $9,666,159 worth of corn, which is far ahead of any other part of the State.

Tidewater Virginia also raised 2,524,485 bushels of wheat, which amount is only exceeded by two sections of the State, viz: The Middle Section and the Valley, these two noted wheat sections exceeding Tidewater Virginia only by a few thousand bushels. In Irish potatoes, Tidewater raised, in 1885, 477,036 bushels, the largest amount in the State; also raised 1,314,377 bushels of sweet potatoes, which is double the amount raised by all the rest of the State put together.

KING TOBACCO.

The originator of the yellow Tobacco industry, Dr. Davis G. Tuck, a native of Halifax county, lived and farmed within two and half miles of South Boston, where he invented the flue for curing Tobacco and introduced the thermometer to aid in curing the yellow type, for which his white sandy loamy soil, lying around and west and south of Love's Shop, was so admirably adapted. The experiments of Dr. Tuck in this line were begun about the commencement of the second quarter of this century, and were prompted by the high prices paid for all colory Tobacco of Virginia for the French market.

It is true the "Tuck Flue," for which the Doctor obtained a patent, was defective, and developed a liability to explode and burn the barns in which they were constructed, and on that account were never extensively used; yet it was a beginning in the right direction, which inventive genius subsequently improved upon, and thus we now have many inventions in the shape of flues, all based upon the principle first inaugurated by Dr. Tuck—*i. e.*, to cure tobacco without smoke and as yellow in color as possible.

It may therefore be said of South Boston, Va., that her borders now embrace and border upon the home of the bright yellow type—lands on which the first successful experiments were made in developing this new and most desirable class of Tobacco. While the industry has widely spread and other localities have become noted for the superior excellence of its bright yellow product, yet it is a fact that the lands of Halifax county, Va, around South Boston, are capable of producing as superlatively fine grades as can be found anywhere else.

Natural advantages in the adaptation of soil and climate to any product will soon or late be found out, and where these most abound accident or investigation is not slow in their development. The surrounding lands of this young, vigorous and thriving Tobacco town were the *first* to be utilized for the fine yellow type, and are still capable of producing and do produce more of this type than were grown thereon fifty years ago.

A peculiarity of these lands, and one which greatly enhances

their permanent value, is that, after being worn down by continuous and exhaustive cropping, and then turned out, they soon recuperate and grow up in pines and sedge and other growth, and then when brought back into cultivation, after twenty or thirty years rest, produce the finest cutters and smokers, which always command high prices.

There are in Halifax county, Va., to-day many thousands of acres of such lands, ranging in price from $2 to $6 per acre, capable of producing Tobacco, the product of one acre of which will sell for enough to purchase from twenty to thirty acres, and sometimes fifty acres of land, of like quality. There are cases on record of planters paying for their farms with proceeds from the first crop raised thereon; and it is also on record, too, where five to seven hundred dollars and more have been realized from *one acre* planted in Tobacco.

Can any other crop anywhere else in the world, outside of the Bright Yellow Tobacco Belt, show such results? It is undeniably true that the extraordinarily fine crops and big prices are rare, but there are numerous instances where planters have averaged for years from twenty to thirty dollars round for their tobacco, realizing an average profit of from fifty to one hundred dollars on every acre of Tobacco cultivated. What other crop can approach such figures in results?

Besides fine yellow Tobacco, the lands of Halifax county are among the best in Middle Virginia for general farming. They are susceptible of a high degree of improvement under good management and improved husbandry, so greatly needed here, as elsewhere in the South. We need more and better farmers—men who are capable of managing a farm to advantage—who will purchase and improve our surplus idle lands, introduce better stock and better implements and methods, directed toward diversified crops, which pay and pay well. They come too slow for this generation. We would gladly welcome them in troops—colonies who come to utilize our lands in permanent *homes*. We want more of the white race to come and insure the domination of intelligence, thrift and moral worth in the control and management of our public affairs. The better class of our people see the situation and recognize the necessity, and henceforth, as never before, we are for white immigration. We will extend the right hand of fellowship to all such, come from where they may, who are worthy and come among us to better their fortunes.

We candidly believe that take Virginia all in all there is no country on the globe superior to it as a home for the man of moderate means. There is no more law-loving, law-abiding, peaceful people to be found, or more friendly to the deserving stranger who makes his home here, than Virginians. Our church and school advantages and privileges are superior, and when it comes to climate and healthfulness no other spot on the globe can compete in these essentials to man's happiness.

We have room for thousands of immigrants—farmers, mechanics, miners, merchants—to bring new business to all of our necessary

avocations. South Boston needs factories, and other places in the country need factories. We need more enterprises and a greater diversification of industries, as well as in crops. We are blessed with an abundance of material to work upon, and need help to properly utilize it; and every effort that is being made to introduce and utilize the right kind of help should receive the moral and material support of every good and patriotic citizen of the county. We are slowly correcting some of the mistakes of the past, and already see unmistakable indications of better times coming. We are in the enjoyment of good local government, and a peaceful population; and need only the opening of larger fields of profitable employment to bring prosperity and contentment to our people.

With best wishes, I am yours very truly,

R. L. RAGLAND.

SOUTHWARD THE STAR OF EMPIRE TAKES ITS WAY.

An instructive and valuable paper, under the caption of "Homes in the South," from the pen of Mr. John Guilmartin appeared in a recent issue of the Boston *Pilot*. Following is an extract from his intelligent testimony as to the promise and progress of this section:

"It is only a question of time when the South will take the lead of the North and the West. New England and the Middle States will, of course, have always the advantage of being nearer to Europe; but they will not bear comparison with the South as a producing region, nor in time as a manufacturing region; while its proximity to the great highway of the ocean, together with the facilities of internal communication it possesses in its system of railroads, susceptible of unlimited expansion, and the natural advantages of navigable rivers and commodious ports, must give it a permanent superiority over the West. It is in the natural order of things that the greater part of the trade of South America will eventually fall into the control of the Gulf States; and when the Panama Canal is built, as built it must be, if mountains have to be moved, now that the project has absorbed so many millions of money, the South will take from England a lion's share of the trade of China, Japan and India.—*Lynchburg Virginian.*

HEALTH OF VIRGINIA.

Reports of the National Soldiers' Home, near Hampton, Va., for 1882, show the health of the State as above the average in the United States.

Deaths at branch of National Soldiers' Home, near Dayton, Ohio, 6.22 per cent.; deaths at branch of National Soldiers' Home, at Milwaukee, 5.36 per cent.; deaths at branch of National Soldiers' Home, at Wisconsin, 5.36 per cent.; deaths at branch of National Soldiers' Home, at Togus, Me., 3.78 per cent.; deaths at branch near Hampton, Va., 3.80 per cent.

ON TO RICHMOND.

The writer has upon two occasions made a tour of Virginia having for his object the discovery of the possibilities of the State and how these possibilities could be made serviceable to us and to others. The most studied investigations leave no question as to the resources of the State in all that goes to constitute natural wealth, and the work of development now so well begun is destined in a few years to place the Old Dominion in the van as an agricultural and manufacturing State. To confirm this we need but state that coal and iron lie almost side by side in immeasurable quantities. To these add copper, zinc, lead and other minerals, timber in primeval forests, and the invitation to manufacturers would seem to be wanting in no essential. On the other hand the agricultural portion of the State is no less favored. There is no condition wanting save intelligent labor. The Northern farmer can name no convenience that he does not possess to greater perfection in Virginia. Indeed every advantage is with the Virginia farmer. Soil is good, seasons longer, land cheaper, shipping less expensive, prices better, school and church privileges second to none, every inducement to cut loose from the mortgaged home and own a farm from which greater returns are sure to result.

Admitting the conditions to be as we state them it may be asked why has not the State been rapidly peopled with settlers from the North and West? We will give what we believe to be some of the reasons.

Because little has been known of the resources of the State. It was generally supposed that its lands were worn out, that what was not worn out is mountainous and worthless. In fact a want of information is one of the chief reasons for lack of development.

Then, too, the social conditions were not believed to be inviting, and altogether few persons were inclined to give the attentive ear to one who was disposed to speak in praise of Virginia. It belonged to an "age gone by" and the star of empire had risen in the west.

Railroad companies with large grants of land began to boom the great West, and having other interests at stake, could afford to carry passengers west at a nominal fare or at no fare, trusting to sale of land and the removal of families (some of whom were glad to be able to remove both ways) for their compensation.

As a result, the prairies of the West, with unequal advantages, were rapidly developed if not, indeed, overdeveloped.

Then comes a reaction. Poor water, drouths, pests, hot winds, blizzards, no timber, no coal, famine, uncertainty of crops, high shipping rates, bleak, barren and desolate; but advertising did it.

"The social conditions are unfavorable; a northern man will have no standing in the South." This cause was given by a northern citizen.

Our observation is much at fault or he is mistaken. There may be more strata in society South than North, but it is the opinion of the writer that any man who will conduct himself properly will find friends and society in the South suited to his condition.

There is no danger of overdoing the matter of immigration as the State is equal to the greatest demands that can be made upon it.

Its every valley may become a perennial garden, and its hills illumined with the blaze of furnaces. The possibilities of the State admit of it, and the ambition of her people should demand it.—*Buckeye Farmer, Mansfield, Ohio.*

THE SOUTHWEST.

MINNEAPOLIS—A PROSPECTIVE CITY.

Minneapolis is situated in the northwestern part of Russell county, on a graceful bend of the Clinch River, upon a beautiful and elevated plateau, 150 feet above the river and 1,700 feet above tide-water, in the midst of the blue grass limestone region of Southwest Virginia, noted for its healthiness, at the crossing of the Charleston, Cincinnati and Chicago Railroad, with the Clinch Valley Extension of the Norfolk and Western Railroad. It is well and regularly laid out, with wide avenues, streets, and alleys, covering an area of nearly one thousand acres. As it is surrounded by immense beds of coking coal, iron and steel ores, it is destined to become very soon a large manufacturing centre, and rivaling the city for which it is named. Two iron furnaces and one large furniture manufactory are already in course of construction. A fine Hotel is soon to be built in a large walnut grove. Limestone for fluxing and building purposes in abundance everywhere. There are fine marble quarries in easy reach, and the neighboring woods are nothing but an accessable abundance of the finest varieties of hard woods, such as walnut, white oak, hickory, hemlock, ash, &c., and the softer kinds, as pine, poplar, &e. Clinch River is a clear mountain stream of 200 feet in width, with a fall of 13 feet to the mile, affording ample water power for manufacturers. A handsome free bridge, built by the New South Mining and Improvement Company, crosses the river near the Union Depot to the adjoining county, Wise. The Charleston, Cincinnati and Chicago Railroad, favorably known as the "3 C's," will make Minneapolis its headquarters, and an extensive area has been secured for railroad shops. Both the C. V. extension of the N. & W. R. R., and the "3 C's" R. R., put parties in easy rail communication with the Seaboard, North, South, Northwest and Southwest.

The city already has too comfortable Hotels.

COST AND COMFORT.

These two facts, now so evident, that none can or do contradict them—that the southern lands are infinitely cheaper than those of the West, and the climate preferable—it is unnecessary to discuss

whether they are more fertile and productive, whether they yield a greater variety of products; we are confident that they do, but this, as we have said, will not be taken into consideration in this matter, as, aside from fertility, the South offers advantages in cheap lands and a mild climate that make it a far better home for the immigrant than he can find anywhere in the West.

In California and central portions of the West, land now commands from $25 to $100 an acre, more than can be paid by most people, whereas the same lands in the South command from $2 to $5. When to this is added the mild climate here as compared with the blizzard in the Northwest, which makes life so unpleasant, and which destroys annually millions of dollars in cattle, etc., it is not to be wondered at that the New York press should advise immigrants that they will find better homes in the Southern States than in those portions of the West to which most of them are moving to-day.—*Chicago Inter-Ocean.*

TRANSPORTATION.

Miles of railroad in State in 1887, 2,920; miles of navigable rivers, ocean and bay shore, 1,500.

COUNTRY AROUND NORFOLK.

Norfolk county lies in the southeast corner of the State bordering on Hampton Roads and Chesapeake bay, with only one county, Princess Anne, between it and the sea. It is about 32 miles long, north and south, and 17 miles wide, containing nearly 550 square miles. It is bounded on the north by Chesapeake Bay and Hampton Roads, on the east by Princess Anne county; on the south by North Carolina, and on the west by Nansemond county, Elizabeth River and Hampton Roads. The county is penetrated by several arms of the sea, viz: Tanner's Creek, Broad Creek, Mason's Creek, and Deep Creek, which with the three branches of the Elizabeth river, viz: the "Eastern Branch," "Western Branch," and "Southern Branch," constitute a very fine water system, and places each farm in Norfolk county within three miles of water transportation. This insures to the Norfolk county farmer the cheapest transportation in the world. The county is also well supplied with other transportation facilities. Two canals intersect the county and connect the waters of the Chesapeake with those of the North Carolina system of sounds and rivers, thus making all of Eastern North Carolina tributary to Norfolk harbor by water. Nine railroads terminate in Norfolk Harbor, cutting Norfolk county in all directions. Nine beautiful shell turnpikes also traverse Norfolk county from all points of the compass, centering on our fine harbor. Therefore, we may safely claim that the Norfolk county farmer is better supplied with transportation facilities than the farmers of any other county in the United States. All the streams of water in Norfolk county are effected by the tide, the tide ebbing and flowing to the very heads of all the streams. This constant ebbing and flowing of the tide carries the salt pure waters of the ocean twice each twenty-four hours up all these streams, and makes it quite impossible for any water to become stagnant or impure. These arms of the sea also afford the finest natural drainage known. The excess of rainfall running into them without ever doing a dollar's worth of damage by flood or freshet. The soil of Norfolk county is of two general kinds, viz: a clay loam and a sandy loam, *all* underlaid with a good substantial clay subsoil. The surface of the county is from eight to twenty feet above the sea level. The mean annual rainfall is about fifty-two inches, well distributed throughout the year, of which amount about thirty-five inches falls during the growing season, say from 1st of March to 1st of October. The ther-

mometer ranges in summer from 70° to 90°, seldom going to 95° above zero ; while in winter it never goes below 20° above zero more than on three days, all told, during the winter. This cutting off of the two extremes of heat and cold is caused by the fact that the county is practically surrounded on three sides by salt water, and the temperature of the air being controlled by the temperature of the water, never goes to either extreme, as the water temperature is quite uniform throughout the year. The "gulf stream," that great wonder of the Atlantic, which rolls only a few miles off our coast, on its way to Europe, has a very pleasing effect on our climate, especially on our winter climate. Norfolk county annually produces from $2,000,000 to $3,000,000 worth of market garden vegetables. This only includes that shipped away, and does not include the vast amount, in addition, that is consumed at home. The aggregate of annual crops, such as hay, oats, corn, etc., is large and constantly increasing. Notwithstanding this, the county is a large buyer of Western corn, oats, hay, butter, lard, beef, pork, etc., while within our county limits we have fully 100,000 acres of most excellent grass, grain and stock land lying idle and entirely unimproved. This condition of things naturally invites immigration. The fish and oyster interests of the county are immense. Large manufacturing establishments are located in this county. Cotton, lumber, brick, fertilizers, and ship-building, giving employment (in connection with trucking) to fully 30,000 laborers steadily, and at times far exceeding this number. There are seventy public schools in the county proper, not including those in the cities within county limits. There are eighty churches, not counting city churches. The white and colored children go to separate schools. The white and colored people go to separate churches, and each and all are perfectly satisfied with this arrangement. Within the limits of the county may be found more than 100,000 people, of which about one-half are in the cities of Norfolk and Portsmouth. The county contains several points of interest, such as the Government Navy Yard, the Naval Hospital, Old Fort Norfolk, Old St. Paul's Church and Churchyard, Ocean View Summer Resort, and last, but not least, the famous Dismal Swamp. By the way, this Swamp is on a hillside twenty-seven feet above the level of the sea in this harbor. If a wide and deep ditch were dug from tidewater to the lake in the centre of this Swamp, the water thereof would run out to the sea like a mill-race, and the Swamp would be a thing of the past. This Swamp was surveyed by Washington at an early day, and the famous Dismal Swamp Canal was surveyed and located by him, and he owned large tracts in the Swamp. There are no waters in the United States so pure as those of this Swamp. Government vessels leaving this harbor for long ocean voyages, secure this juniper water from the Swamp on account of both its medicinal and keeping qualities. Invalids, who, with rod and gun, go into this Swamp and spend a few weeks or months sleeping on juniper boughs, drinking juniper water, and inhaling the juniper impregnated air, rapidly improve in health, appetite and general robustness. Norfolk county has special advantages on sea and land. It is the centre of the grandest market-garden business in the United States. It has the finest

seaport in the South, and stands *next* to the head, if not *at* the head, in fish and oyster interests. Swift steamers constantly ply between the producers of Norfolk county and the best markets in America, viz: Boston, Providence, New York, Philadelphia, Baltimore, and Washington, while two great lines of railway help distribute this immense amount throughout the West and Northwest. It costs our farmers no more to ship a barrel of kale, cabbage or potatoes to New York, 350 miles away by steamer, than it does to ship the same 50 miles by rail into the interior. In other words, Norfolk county, measured by freight rates and shipping facilities, is not more than 50 miles from New York, Philadelphia and Boston. The soil of Norfolk county is really a good one, and has not been so thoroughly robbed of its fertility as some parts of the South has. There is no loss of soil fertility by washing, such as there is in rougher and more rolling sections. While our soil is quickly drained and quickly worked after heavy rains, the drainage is such as to prevent the washing away of the finer soil. Fertilizers and manure applied to the land are neither *washed* away nor *leached* away, as the subsoil is substantial, and the land is not only very grateful for manure applied to it, but holds it and shows it a long time thereafter. This county and portion of the State offers special advantages to the men of limited to fair means, who come here to engage in the poultry or small fruit business, or who will raise early lambs for Northern markets, or make milk, butter, beef, pork, hay, oats and corn, as in all these things Norfolk county is not growing enough for home consumption. For example, milk retails at 10 cents per quart, butter 35 to 50 cents per pound, and hay $16 to $20 per ton. Good land is lying here for sale cheap, upon which all these things may be successfully and profitably grown. The climate is all that can be desired both in summer and winter. This section is constantly fanned by the sea breezes, making it as healthful as the islands of the sea. The State now invites people to come in and help settle the waste places. The county of Norfolk invites newcomers, and the people, as *individuals* as well as *collectively*, extend the invitation to all so disposed to do so, to come and help make Norfolk county what 'twas doubtless intended to be—the great garden spot on the Atlantic sea-coast.

NORFOLK STATISTICS.

ARTICLES.	RECEIPTS.	VALUE.
Sawed Lumber	120,650,296 feet.	$1,450,000 00
Logs	98,672,324 "	790,000 00
Shingles	24,998,213 M	140,000 00
Staves	6,038,497 M	151,000 00
Sawed Lathes	1,966,807 M	3,000 00
Railroad Ties	129,307 M	52,000 00
Total estimated value		$2,586,000 00

COUNTRY AND FARM PRODUCTS.

Peanuts	287,918 bags, 4 bus. each	$ 720,000
Eggs	26,087 packages	234,000
Potatoes	75,027 barrels	150,000
Fruits and Vegetables.	120,035 packages	236,842
Hides—green	19,921 "	70,000
Total		$1,410,482

AGRICULTURAL.

Another cause of Norfolk's prosperity must be touched upon, and the agricultural interest is not to be overlooked. Eight beautiful shell turnpikes radiate from the city, like spokes from the hub, penetrating the truck fields in every direction. On these roads and on the salt arms of the sea are these truck farms; and these are considered larger and more prolific, often making five different crops during the year on the same land.

The climate is the best, the year round—being equally removed from the cold of Canada and the heat of Mexico—and is the most important seaport south of New York. The soil seems particularly adapted for these farms. This section, embracing a circle whose diameter may be twenty miles, may be truthfully said to be the great trucking centre of the United States. No other section can show the amount of truck nor the net cash returns from the same that this circle can show. The trucking business for the year 1887, for Norfolk county, and the value of fruit shipped, aggregated $2,287,042.81. The aggregate value of fruit and vegetables shipped from a single county (Norfolk) exceeded the value of the entire iron industry of the entire State for that year. The amount of truck handled in this city during a single year, will reach $4,000,000 to $5,000,000, and the business is yet in its infancy.

The agricultural interests of Norfolk and Southeast Virginia are carefully looked after by the *Cornucopia*—an eight-page monthly agricultural journal, published by Mr. A. Jeffers—now in its third year. As the land and water around Norfolk is truly "a horn of plenty," the journal is appropriately named.

OUTLINES ONLY.

We have thus only briefly outlined some of the vast facilities the city possesses, which most eminently entitles her to rank as one of the grandest trade centres in our country, and should be powerful inducements to all parties looking for a most eligible point to erect factories or other business enterprises. The merchants are a live set of men, trusting and energetic, and ready to grasp hands with all comers who cast their lot with them—bent on business.—*Marie Wright, in Sunny South.*

OUR TRUCKING INTERESTS.

[*From Norfolk Journal of Commerce.*]

Norfolk may be said to be in the centre of the greatest market garden in the United States. These great truck farms extend over an area of about twenty-five miles in diameter, covering Norfolk county and a part of Princess Anne and Nansemond, and no other section of like proportions can show the amount of truck produced by this or the amount of cash received for the produce. It is a very difficult matter to estimate the money value of this business to Norfolk, as no complete record is kept of the receipts and shipments, and authorities on the subject differ somewhat; however, those who are in the best position to judge estimate that the trucking business of Norfolk amounts to at least $4,500,000 per annum. It is claimed that the truck and fruit business of Norfolk county alone amounts to $2,500,000 per annum, or more than the entire iron industry of the State. The heart of the trucking season lasts about six weeks, covering June and a part of May and July. During this period our large transportation lines put on extra steamships, and a daily line is established between Norfolk and all of the Northern markets. From the best information obtainable, we would estimate that the movement of truck during these six weeks average between 250,000 and 300,000 packages per week, or about 1,700,000 packages during the season. To handle this immense volume of produce, both in gathering and preparing for market and in its transportation, a very large number of people are required, a large proportion of whom have to be drawn from other parts of the country, principally North Carolina, though many come from long distances during the season.

The Irish potato crop probably gives the largest yield, and many of our enterprising truckers have secured large fortunes from their potato crops.

During the past season, which was a good one, it is stated on good authority that several of our farmers cleared from $10,000 to $30,000 on potatoes. The immensity of this traffic may in a measure be realized in the fact that as many as 20,000 barrels of potatoes have been shipped from Norfolk by the Old Dominion Line to New York in one day, besides the large amount which was carried to other markets by other lines.

NORFOLK, VA., February 27, 1889.

To Major J. Hoge Tyler, Rector of the Board of Visitors Virginia Agricultural and Mechanical College, Blacksburg, Va.:

Dear Sir—The undersigned, a committee selected by a mass-meeting of prominent farmers and truckers, assembled in Norfolk, Va., on the 21st day of February, 1889, for the purpose of discussing the matter of securing a sub-experimental station for Eastern Virginia, were instructed and authorized to communicate with you respecting the same.

We, therefore, beg leave to submit for your consideration the following facts:

1st. We desire most respectfully to call your attention to the magnitude of the agricultural interests, lying, for example, within a ten-mile limit of this city. If a circle—the radius of which is ten miles—be drawn around this city, it would include fully *two thousand farmers and truckers* engaged wholly or partially in growing maaket-garden vegetables for the great Northern and Western markets.

Within this circle more than *forty thousand acres are entirely* devoted to truck crops, such as kale, cabbage, spinach, peas, beans, radish, lettuce, turnips, beets, onions, melons, potatoes, tomatoes, egg plants, celery, asparagus, strawberries, and numerous other similar crops, while many thousands of acres within this circle are devoted to the growing of crops of corn, rye, oats, hay, peanuts and sweet potatoes, and other staple annual crops.

The aggregate sales of the truck crops grown in this circle amount to from $3,000,000 to $4,000,000 annually, exclusive of the hay, oat and corn crop, &c., and, in fact, often *exceed* the latter figure, and are *constantly increasing.* The value of these trucking lands exceeds the sum of *eight millions of dollars.* The value of fertilizers used annually is placed at *one million dollars.*

The value of seeds, implements and farm stock, horses and mules used in this work is fully *two million dollars.*

In the prosecution of this great work fully *ten thousand* laborers are given steady employment throughout the year, while during the very busy season of April, May and June the number of laborers runs up to *thirty thousand.*

When we go outside of this circle above mentioned, whose radius is only ten miles, we find all of Eastern or Tidewater Virginia rolling up a grand aggregate of crops handled principally in this harbor for shipment to the world's best and greatest markets. This gives but a faint conception of the magnitude of the agricultural interests that would be *favorably effected* by the location of a sub-experimental station in our midst. In short, we may safely claim that an experimental station located here would favorably effect *greater agricultural interests than any other similar station in the Union.*

2d. In the prosecution of this immense work, it is but fair to suppose that a proportionate loss is sustained from the ravages of insects, worms and other pests. If the same percentage of loss is sustained here as in all other sections—which is but fair to suppose —then the *losses* from these sources aggregate a sum many times *greater* than the *entire appropriation* to the State for experimental work.

3d. We further desire to call your attention to the advantage of having the station in this vicinity by reason of its *accessibility.* Eight excellent shell turnpikes, two canals, eight railroads (others projected), and thirty or more daily lines of steamers concentrate in this harbor, not including the many hundreds of sailing vessels and ocean steamers plying in these waters. Therefore, an experimental station, located at or near this point, would be more accessible by

rail, by mail, by wire, by telephone, by steamer, by canal by highways and byways than any other point in Eastern Virginia. Therefore we respectfully ask that the question of the magnitude of our agricultural interests and accessibility of our location be given due weight in the selection of a suitable point for the location of the proposed sub-station.

4th. To one other point we desire to call your attention, viz: This section being not only the *largest trucking centre* in the Union, but being centrally located in the great trucking belt of the Atlantic seaboard, experiments here would be of great use and benefit, not only to our immense trucking and agricultural interests at home directly, but of great benefit to the whole trucking belt from Maine to Florida, indirectly. Experiments would be watched and the results carefully read and studied by a greater number of earnest, practical, thorough workers than the experiments made by any other station or sub-station in the Union.

Respectfully submitted,

JOHN MULLINS, Chairman,
A. JEFFERS, Secretary,
A. J. NEWTON,
JOHN MCWHORTER,
J. A. WHETSEL,
S. M. SHUMADINE,
JAMES WAGNER,
WM. F. WISE,
R. S. JOYNES,
PARKE L. POINDEXTER,
S. B. CARNEY,
J. L. BABCOCK,
G. D. DEBAUN,
C. MILLER,
JAMES TWIFORD,
WALTER JORDAN,
L. JACKSON,
A. E. HERBERT,
Committee.

VIRGINIA WEATHER AND RAINFALL.

Note the following Meteorological Report for the months of December, 1887, and January and February, 1888, and compare it with your climate, and draw your own conclusions.

The subjoined tables give the Sunrise, Minimum and Maximum readings of the Thermometer, and the course of the wind at sunrise. The readings of the Thermometer were taken in an elevated portion of the City of Richmond, Va., the position of the instrument being free from any influence of refractory heat. They are self-registering, of the best French manufacture, are carefully noted each day, and the figures are believed to be absolutely correct.

REPORT FOR DECEMBER, 1887.

CONDITION.	MINIMUM.	SUNRISE.	MAXIMUM.	WIND.
1. Clear	19	19	42	N. W.
2. Cloudy	25	25	48	N. E.
3. Partly cloudy	34	34	64	S. E.
4. Clear—foggy (1)	36	36	67	S. E.
5. Cloudy	44	44	75	W.
6. Clear	29	29	60	N.
7. Clear—frost	27	27	61	W.
8. Cloudy	41	41	48	S. E.
9. Clear (2)	33	33	60	N. W.
10. Cloudy (3)	40	55	65	S. E.
11. Cloudy	50	50	58	S. E.
12. Cloudy	45	45	59	N. E.
13. Clear	31	31	57	N. W.
14. Partly cloudy (4)	30	30	49	N. E.
15. Cloudy (5)	41	41	51	E.
16. Clear	30	30	55	W.
17. Cloudy (6)	31	33	43	E.
18. Partly cloudy	30	30	49	N. W.
19. Clear	29	29	54	W.
20. Cloudy (7)	34	34	48	S. E.
21. Cloudy	36	36	60	W.
22. Partly cloudy	30	30	52	N. W.
23. Partly cloudy	23	23	48	S. E.
24. Cloudy (8)	35	35	43	E.
25. Cloudy	29	29	43	N. E.
26. Cloudy	32	32	40	S. E.
27. Cloudy (9)	21	21	44	N. W.
28. Cloudy (10)	36	39	56	E.
29. Clear	15	15	45	N.
30. Clear	11	11	40	N.
31. Cloudy	22	22	45	S. E.
Average temperature	31.5	32.1	52.5	
Mean temperature....42.0				

REPORT FOR JANUARY, 1888.

CONDITION.	Minimum.	Sunrise.	Maximum.	Wind.
1. Cloudy (1).	29	36	58	E.
2. Cloudy	36	37	45	E.
3. Clear	25	25	54	S. E.
4. Partly cloudy	29	29	60	S. W.
5. Cloudy	38	45	52	S. W.
6. Cloudy (2).	35	35	55	S. E.
7. Partly cloudy	50	55	76	S.
8. Partly cloudy (3)	56	56	75	S. W.
9. Cloudy (4).	39	39	45	E.
10. Cloudy	32	32	58	W.
11. Clear	27	27	51	W.
12. Clear (5)	14	14	41	N.
13. Cloudy (6)	25	25	38	E.
14. Cloudy (7)	28	28	54	N. W.
15. Cloudy	37	37	58	S. E.
16. Cloudy (8).	25	25	47	N.
17. Cloudy (9).	21	21	35	E.
18. Cloudy	25	29	44	S. W.
19. Clear	14	14	44	N:
20. Clear	20	22	45	S.
21. Cloudy	26	26	41	N. W.
22. Cloudy	13	15	26	N.
23. Cloudy	19	21	33	S. E.
24. Clear	21	21	52	N. W.
25. Clear (10)	17	17	34	N. W.
26. Partly cloudy	27	27	42	S. W.
27. Cloudy	20	21	43	N. E.
28. Clear	11	11	40	N.
29. Clear	10	10	44	S. E.
30. Partly cloudy	21	21	40	N. W.
31. Cloudy	30	30	56	E.
Mean temperature	26.5	27.5	38.3	
Average temperature. 32.4				

REPORT FOR FEBRUARY, 1888.

CONDITION.	Minimum.	Sunrise.	Maximum.	Wind.
1. Cloudy	30	30	54	N. E.
2. Cloudy	26	28	50	S. E.
3. Partly cloudy (1)	24	24	51	N. E.
4. Cloudy (2)	35	35	58	E.
5. Cloudy (3)	42	42	61	S. E.
6. Cloudy (4)	38	38	47	E.
7. Cloudy (5)	35	35	56	S. E.
8. Cloudy (6)	32	34	54	S. E.
9 Cloudy (7)	35	35	43	S. E.
10. Cloudy (8)	20	20	32	N.
11. Cloudy (9)	17	21	34	E.
12. Cloudy (10)	28	28	40	S. E.
13. Cloudy	29	29	51	N. E.
14. Clear	26	26	64	S. E.
15. Partly clear	36	36	52	N. E.
16. Clear	15	15	45	N.
17. Clear	28	35	67	S. W.
18. Cloudy	34	34	68	S. E.
19. Clear	32	32	62	W.
20. Cloudy (11)	43	48	68	E.
21. Cloudy	50	50	60	S.
22. Clear	33	33	67	W.
23. Cloudy	37	37	68	E.
24. Cloudy (12)	34	34	55	N. E.
25. Cloudy	40	48	67	S.
26. Partly cloudy	38	38	60	W.
27. Cloudy (13)	32	32	47	N. W.
28. Clear	12	12	41	N.
29. Clear—rain at night	21	25	55	S. W.
Average	34.6	35.7	54.8	
Mean temperature....44.7				

METEOROLOGICAL.

The table below gives the average minimum and maximum readings of the thermometer during the past year:

	Minimum.	*Maximum.*	*Mean Temperature.*
January	27	48.3	37.6
February	35.3	62.8	49
March	30.6	52.08	43.2
April	41.7	67	54.3
May	59	86.4	72.7
June	61	93.8	71.7
July	71.3	82.4	82.3
August	66.9	86.8	76.8
September	56.6	82.5	69.6
October	49.7	71.3	60.5
November	36.8	61.7	49.7
December	31.5	52.5	42

Mean temperature for the year.....59.4

MEAN TEMPERATURE.

We append a table of mean temperature for the past ten years:

1878	50	1883	59
1879	48	1884	54.9
1880	57.8	1885	57.9
1881	61	1886	56.4
1882	58.8	1887	59.4

Average for ten years.....56.3

RAINFALL FOR THE YEAR.

	Inches.
January	1.88
February	4.40
March	2.52
April	2.71
May	3.56
June	4.45
July	6.58
August	8.27
September	1.19
October	4,94
November	2.49
December	4.04
Total for the year	47.03

Below we give a table of rainfall for the past seventeen years:

	Inches.
Rainfall for 1871	45.38
Rainfall for 1872	34.26
Rainfall for 1873	53.32
Rainfall for 1874	33.51
Rainfall for 1875	42.07
Rainfall for 1876	27.65
Rainfall for 1877	29.00
Rainfall for 1878	35.24
Rainfall for 1879	33.81
Rainfall for 1880	38.15
Rainfall for 1881	38.64
Rainfall for 1382	36.82
Rainfall for 1883	34.57
Rainfall for 1884	31.09
Rainfall for 1885	34.69
Rainfall for 1886	53.64
Rainfall for 1887	47.03
Average for seventeen years	37.82

NATURAL CURIOSITIES.

PAGE COUNTY is traversed in its entire length by the Shenandoah Valley Railroad, which runs through the centre and affords transportation convenient to all parts of the county. Since the construction of this road the development of the county has been very rapid.

At Luray is a beautiful Cave, with an endless succession of extensive chambers, ornamented with numerous stalactites and stalagmites. This is numbered among the noted caverns of the world, and attracts from all parts of the country thousands of visitors curious to examine its wonders, which surpass those of any other known to man. It is now fitted up with electric lights and all conveniences for exhibition.

Page Valley is here several miles wide, and the surface is diversified by an endless series of knolls, ridges, and deeply imbedded streams. "The rocks throughout the whole of this region have been much displaced, having been flexed into great folds, the direction of which coincides with that of the Appalachian mountain-chain. In fact, these folds are a remnant of the results of that series of movements in which the whole system primarily originated." Hidden in the woods near the top of one of these hills, about a mile east of Luray, an old cave has always been known to exist. Connected with it are traditions which reach back to the Ruffners, the earliest settlers of the Valley, and it has taken their name.

In 1878, Mr. B. P. Stebbins, of Luray, conceived the project of a more complete exploration of it, with a view of making it an object of interest to tourists, and he invited the co-operation of the brothers Andrew and William E. Campbell. These gentlemen declined to go into the old cave, but were ready to engage in a search for a new one, and went ranging over the hills, but for four weeks succeeded only in exciting the astonishment and ridicule of the neighborhood, when, returning one August day from a long tramp, the men approached home over the hill where Ruffner's cave was. In the cleared land on the northern slope, a couple of hundred yards or so from the mouth of the old cave, was a sink-hole choked with weeds, bushes, and accumulation of sticks and loose stones, through which they fancied they felt cool currents of air sifting.

Laboriously tumbling out the bowlders, Mr. Andrew Campbell was finally able to descend by the aid of a rope into a black abyss, which was not bottomless, however, for he soon let go of the rope,

and left his companions on the surface to their conjectures. Becoming uneasy at his long absence, his brother also descended, and together the men walked in a lofty passage for several rods, where their progress was stopped by water. Returning, they told Mr. Stebbins what they had seen, and all agreed upon a policy of silence until the property could be bought. Then they went home and dreamed of "millions in it." Such was the discovery of the Luray Cave.

Dreams are but a "baseless fabric." The property was bought of a bankrupted owner at a sheriff's sale, but, upon an intimation of its underground value, one of the relatives of the original owner sued for recovery upon an irregularity in the sale, and after two years of tedious litigation he won his suit. Previously a company of Northern men, of whom Mr. R. R. Corson, of Philadelphia, was president, had formed a joint-stock company to purchase the property, and it passed into their hands in the spring of 1881. But during the two years the original cost had swelled, while the early visions had dwindled, until they met at $40,000. This is the history of the "wonder."

You will find an even temperature of about 56° Fahrenheit throughout the Cave all the year round. There is plenty of room to walk about everywhere without squeezing against the walls or striking your head, and board or cement walks and stairways are provided throughout all the area open to visitors. It is advisable, nevertheless, for ladies to wear rubbers, since there is enough dampness underfoot in some places to penetrate thin-soled boots.

* * * * * * * * * *

The darkness was only faintly illuminated by our few candles, and I was about to remonstrate, when the click and flash of an electric arc flooded the whole place with light. Our few candles were intended merely for peering into dark corners and helping our footsteps. The general illumination is accomplished by dozens of electric lamps hung in all parts of the wide-winding vaults and passages. As soon as I perceived this I gave my sconce to Baily, for it was a nuisance to carry it.

The first chamber is about as big as a barn, and from it we proceed upon a causeway of cement for a short distance past the Vegetable Garden, the Bear Scratches, the Theatre, the Gallery; over Muddy Lake on a planking-bridge, which is itself spanned by a stone arch; through the Fish Market and across the Elfin Ramble—a plateau in which the roof is generally within reach of the hand; and so come to Pluto's Chasm.

From the chasm, where there is a Bridge of Sighs, a Balcony, a Spectre, and various other names and habitations, we re-cross the Elfin Ramble, pass successively Titania's Veil, Diana's Bath—the lady was not fastidious—and come to a very satisfactory Saracen Tent.

Then we ascend stairways past the Empress Column—easily empress of all, I think—and proceed under the Fallen Column to the spacious nave of the Cathedral. We pause to note its lofty groined roof and Gothic pillars—surely in some like scene to this the first

architect of that style met his inspiration!—its large Michael Angelesque Angel's Wing and its Organ. Then we sit down and turn to the prostrate stalactite. It is as big as a steamboat boiler, and bears an enormous pagoda of stalagmitic rock which has grown there since it fell. It thus forms a good text for a conversation as to the age and geology of the Cave, the materials for which we found by reading an excellent pamphlet on the subject published by the Smithsonian, and which may be procured at Luray. The gist of it is that the Cave is probably considerably later in its origin than the close of the carboniferous period, and not more ancient than the Mammoth or Wyandotte Caves. The indications are that in past ages the work went on with great rapidity, but that latterly change has been very slow, and at present has almost ceased.

Leaving the Cathedral—a narrow, jagged passage—we get an outlook down into a sort of devil's pantheon, full of grotesque shapes and colossal caricatures of things, animate and inanimate, casting odd and suggestive shadows in whose gloom fancy may work marvels of unworldly effect, and then are led by a stairway to a well-curtained room called the Bridal Chamber.

The back door of the Bridal Chamber admits to Giant's Hall, just beyond which is the Ball Room—both large and lofty apartments, constituting a separate portion of the Cave, parallel with the length of Pluto's Chasm. In the Ball Room we have worked back opposite the entrance, having followed a course roughly outlined by the letter U.

I have thus run hastily over the greater part of the ground open to the public, in order to give an idea of its extent and nomenclature. To describe each figure and room separately is impossible. The best I can do is to try to give some general notion of the character of the ornamental formations of crystalline rock which render this Cave without a peer in the world, perhaps, for the startling beauty and astonishing variety of its interior.

Though the simple stalactite will be circular and gradually decreasing in size, conically from its attachment to its acuminate point, yet innumerable variations may occur, as the dripping or streaming water that feeds it is diverted from its direct and moderate flowing.

Chief of all the varieties, and the one that in lavish profusion is to be seen everywhere in these caverns, is that which, by growing on the edges only, produces not a round, icicle form, but a wide and thin laminated or sheet form, which is better described by its semblance to heavy cloth hanging in pointed folds and wrinkles, as a table-cover arranges itself about a corner. Where ledges and table-like surfaces—of which there are many instances in the Cave—are most abundant, there the "drapery" is sure to form. In the Market it crowds the terraced walls in short, thick, whitish fringes, like so many fishes hung up by the gills. The Saracen Tent is formed by these great, flat, sharply tipped and gently curving plates, rich brown in color, depending from a square canopy so that they reach the floor, save on one side, where you may enter as through conveniently parted canvas. The Bridal Chamber is curtained from cu-

rious gaze by their massive and carelessly graceful folds; the walls of Pluto's Chasm are hung with them as in a mighty wardrobe; Diana's Bath is concealed under their protecting shelter; Titania's Veil is only a more delicate texture of the same; Cinderella Leaving the Ball becomes lost in their folds as she glides, lace-white, to her disrobing; and a Sleeping Beauty has wrapped these abundant blankets about her motionless form; while the Ball Room carries you back to the days of the Round Table, for the spacious walls are hung as with tapestries.

Do not disbelieve me when I speak of wealth of color. The range is small, to be sure, but the variation of tint shade is infinite and never out of tune. Where the growth is steady and rapid, the rock is crystal white, as at the various Frozen Cascades, the Geyser, and many instances of isolated stalactites. But when the steady growth ceases, the carbonic moisture of the air eats away the glistening particles of lime, and leaves behind a discolored residuum of clay-dust and iron oxides. Thus it happens that, from the niveous purity or pearly surface of the new work there runs a gentle gradation through every stage of yellowish and whitish brown to the dun of the long abandoned and dirty stalagmite, the leaden gray of the native limestone, or the inky shadow that lurks behind. It is thus that the draped and folded tapestries in the Ball Room are variegated and resplendent in a thousand hues. Moreover, various tints are often combined in the same object, particularly in the way of stripes more or less horizontal, due to the varying amount of iron, silica, or other foreign matter which the lime-water contained from time to time.

The best example of this, and, indeed, of the "drapery formation" generally, is to be found in the Wet Blanket. A large number of the pillars are probably hollow, and are formed by the crowding together of many drapery stalactites, which finally have coalesced, leaving the pillar deeply fluted, or seamed up and down, along their connected edges. When you find one of these massive, ribbed and rugged pillars vanishing above in a host of curved stalactites, their thin and wavy selvages guiding the eye to tips which seem to sway and quiver overhead, it is hard not to believe it is an aged willow turned to stone. Indeed, the whole scene in many parts is strongly suggestive of a forest with tangled undergrowths, thrifty saplings, fallen logs, and crowding ranks of sturdy trees.

In more than the general effect, indeed, the ornamental incrustations of this cave mimic the vegetable growths outside. Many of the stalactites are embroidered with small excrescences and complicated clusters of protruding and twisted points and flakes, much like leaves, buds and twigs. To these have been given the scientific name of helictites, and the grottoes of Stebbins Avenue exhibit them to the best advantage.

Then there are the botryoids—round and oblong tubers covered with twigs and tubercles, such as that cauliflower-like group which gives the name to the Vegetable Garden; these grow where there is a continual spattering going on. A process of decomposition, dissolving out a part and leaving a spongy frame-work behind, fur-

nishes to many other districts quantities of plant-semblances that you may name and name in endless distinction. Then, in the many little hollow basins or "baths," and in the bottom of the gorges where still water lies, so crystal clear you cannot find its surface nor estimate its depth—where the blue electric flame opens a wonderful new cave beneath your feet in the unrecognized reflection of the fretted roof, and where no ice is needed to cool nor cordial competent to benefit the taste of the beverage—there the hard gray rock blossoms forth into multitudes of exquisite flowers of crystallization, with petals rosy, fawn-colored and white, that apparently a breath would wilt.

But I must cease this attempt at even a suggestion of the possible variety of size and shape, mimicry and quaint device to be met with in this cavern.

That rigid stone should lend itself to so many delicate, graceful, airy shapes and attitudes, rivaling the flexible flower of the organic world, fills the mind with astonishment and bewilders the eye; and when you have struck the thin and pendent curtain, or the "pipes" of the Organ in the Cathedral, and have found that each has a rich, deep, musical resonance of varying pitch, then your admiration is complete.

The cave has not yet much human interest; but we must not forget to follow down a long stairway into a deep and narrow gulch, where the dampness and gloom is little relieved by anything to please the eye. At the foot of the staircase the guide drops his lantern close to a trench-like depression, through which a filmy brooklet trickles noiselessly. No need of interrogation—there is no mistaking that slender, slightly curved, brown object, lying there half out, half embedded in the rock, with its rounded and biloped head, nor its grooved and broken companions. They are not fallen, small stalactites; they are human bones—fit for the mausoleum of emperors. What a vast vault to become the sarcophagus of one poor frame!

Rockbridge County, named from its most striking feature, the world-renowned "Natural Bridge." This county is 31 miles in length and an average width of 22 miles, and contains 397,622 acres, valued at $3,284,902. Population, 20,000.

Tourists find in this county some of the grandest scenery of the continent. Besides the Natural Bridge, above mentioned, "Balcony Falls," where James river cuts its way through the Blue Ridge, and "Goshen Pass," on North river, have long been celebrated, and now that this region has become accessible, are daily drawing greater crowds.

The Natural Bridge, in this county, is reckoned as one of the world's wonders.

The first impression is the lasting one—its majesty! It stands alone. There is nothing to distract the eye. The first point of view is at sufficient distance, and somewhat above the level of the foundation. Solid walls of rock and curtaining foliage guide the vision straight to the narrows where the arch springs colossal from

side to side. Whatever questions may arise as to its origin, there is nothing hidden or mysterious in its appearance. The material of the walls is the material of the bridge. Its piers are braced against the mountains, its enormous keystone bears down with a weight which holds all the rest immovable, yet which does not *look* ponderous. Every part is exposed to our view at a glance, and all parts are so proportionate to one another and to their surroundings—so simple and comparable to the human structures with which we are familiar, that the effect upon our minds is not to stun, but to satisfy completely our sense of the beauty of curve and upright grace and strength drawn upon a magnificent scale. "It is so massive," exclaims Mr. Charles Dudley Warner, "so high, so shapely, the abutments rise so solidly and spring into the noble arch with such grace and power! . . . Through the arch is the blue sky; over the top is the blue sky; great trees try in vain to reach up to it, bushes and vines drape and soften its outlines, but do not conceal its rugged massiveness. It is still in the ravine, save for the gentle flow of the stream, and the bridge seems as much an emblem of silence and eternity as the Pyramids."

Descending further the path cut along the base of the cliffs, which, as one writer has said, arise "with the decision of the wall, but without its uniformity—massive, broken, beautiful, and supplying a most admirable foreground." We advance under the arch, and gaze straight up at its under side, which is from sixty to ninety feet wide. It is almost two hundred feet above the stony bed at Cedar creek, but Baily doesn't remember this, and fancies he can hurl a pebble to the ceiling. Vain youth! Even gentle Prue laughs at him, and the swallows weaving their airy flight in and out from sunlight to shadow, fearlessly swoop lower and twitter more loudly, deriding his foolish ambition.

Crossing the gay torrent on a foot-bridge, we wandered up the creek a mile or more, past Hemlock island; past the cave where saltpetre was procured for making powder, in 1812, and again during the Confederate struggle, and even penetrated the low portal within which a "lost" river murmurs and echoes to our ears its unseen history, as it plunges through the dark recesses of its subterranean course; and the farther we went the more rugged, thickly wooded and charmingly untamed was the gulch. Finally the walls closed in altogether, but finding a boat we crossed to a stairway of stone leading to Lace Water Falls, where the stream leaps a hundred feet, falling in a dazzling *dishabille* of rainbow-tinted bubbles and spray.

"The Glen" above the Bridge extends for a mile to Lace Water Falls, where Cedar Creek leaps one hundred feet from the upper level. The Glen was probably once an immense cave. The path follows the stream or is cut into the rocks that form its bank. On the right, a little above the Bridge, Cathedral Wall projects boldly, covered with mosses and lichens. The precipice on the left is in color light blue, and delicately traced with vines and evergreens. Farther up, the cliffs on the right are red-brown, scarred and seamed, and crowned with crags.

Hemlock Island is an immense pyramid of evergreens.

The curious visitor is likely to step across the brawling little stream along here, and peep into the gloom of a low-roofed cavern of which more anon.

The upper part of the Glen is densely wooded until the walls close in and the path ends. A boat is here taken that lands at the Stone Stairway. Climbing this, Lace Water Falls are on the right. The slopes and steps of the cascade are smooth, and the waters dash from side to side fitfully, and weave a beautiful veil of foam and spray.

The Bridge seen from this (the upper) side is imposing, and its magnitude is perhaps more striking; but on the whole it is not so effective, regarded as an object by itself, as when studied from below. Harriet Martineau, who once visited the spot, and has written enthusiastically of it in the second volume of her "Retrospect of Western Travel" (1838), declares that she found most pleasure in looking at the Bridge from the path just before reaching its base. "The irregular arch," she writes, "is exquisitely tinted with every shade of gray and brown, while trees encroach from the sides and overhang from the top, between which and the arch there is an additional depth of fifty-six feet. It was now early in July; the trees were in their brightest and thickest foliage; and the tall beeches under the arch contrasted their verdure with the gray rock, and received the gilding of the sunshine as it slanted into the ravine, glittering in the drips from the arch, and in the splashing and tumbling waters of Cedar Creek, which ran by our feet."

Nevertheless, if you are willing to regard the great arch only as a part of the *ensemble*, and to take into just account what is around and beyond it as a proper part of the scene, I advise you to place yourself a hundred yards *above* and then observe what a charming picture of glistening torrent, flower-hung rocks, stately trees and far away mountain crests is framed into its oval: and how incomparable is the colossal frame itself—what sublimity of design—what wealth of decoration and lavishness of color!

It cannot be too strongly insisted upon that while this curious product of water erosion (slowly turning a cave into a long tunnel, and then, by the falling of the most of the roof, leaving only an arch-like segment of the tunnel in the shape of a bridge) is the central attraction; there are a thousand other sources of enjoyment and pastime at this pilgrimage-point.

For those who are content with rest and gossip, fresh air by day and dancing at night, the fine new hotel offers every inducement for a prolonged stay. To the larger class which seeks more active pleasure during the summer vacation, a wide range of good roads and interesting country is open for exploration. "The Bridge," says the admirable little guide-book issued by the hotel people, "connects two of five round-topped mountains that rise boldly from the great valley of Virginia, near the confluence of James and North Rivers. These have been named Lebanon, Mars Hill, Mount Jefferson, Lincoln Heights, and Cave Mountain, and embraced in the

park. Private carriage-roads, nearly ten miles long, lead around or over them, and give through arches cut in the forest, or from open spaces, a wonderful variety and extent of mountain scenery.

"Eight hundred feet below the summit of Mt. Jefferson lie the green valleys of the rivers. Eight miles to the east the Blue Ridge, forest-covered and mist-crowned, rises to its greatest height, 4,300 feet above the sea, and extends to north and south nearly one hundred miles before it is lost in the dim distance. A little to the left the glint of broken granite alone shows where the river bursts through, and at the right the crest lowers so that the Peaks of Otter may overlook. At the south, Purgatory Mountain, and at the north, House Mountain, throw their immense masses half across the plain. Against the western sky North Mountain, the 'Endless Mountain' of the Indians, lies cold and colorless. In the lifted central space of this great amphitheatre the park is located."

An old turnpike crosses upon the Bridge, but amid the apparently unbroken forest, few persons would discover it till told by the driver, In one of his inimitable articles in *Harper's Magazine*, before the war, Porte Crayon gives a ludicrous account of how his party behaved on the brink of the chasm; and Miss Martineau confesses how her search was baffled. "While the stage rolled and jolted," she writes, "along the extremely bad road, Mr. L. and I went prying about the whole area of the wood, poking our horses' noses into every thicket and between any two pieces of rock, that we might be sure not to miss our object, the driver smiling after us whenever he could spare attention from his own not very easy task of getting his charge along. With all my attention I could see no precipice, and was concluding to follow the road without more vagaries, when Mr. L., who was a little in advance, waved his whip as he stood beside his horse, and said, 'Here is the Bridge!' I then perceived that we were nearly over it, the piled rocks on either hand forming a barrier which prevents a careless eye from perceiving the ravine which it spans. I turned to the side of the road, and rose in my stirrup to look over, but I found it would not do. . . . The only way was to go down and look up; though where the bottom could be was past my imagining, the view from the top seeming to be of foliage below—foliage forever."

The bridle paths wind through in endless mazes.

Before crossing the Bridge the pedestrian will stop on Pulpit Rock and Cedar Cliff—wild, over-hanging crags, from which the Bridge and the Glen are seen to advantage. After crossing, at the left a distant view of the valley is had from the dizzy height of Marshall's Pillar, and the path to the right, following along the edge of Rock Rimmond, leads to the Chimney's, Crow's Nest, the Black Gables, and Point Despair.

The driveways do not cease at the Bridge, but continue by an elevated course which gives some remarkable outlooks, and takes in various notable points.

The hotel is open all winter, and there are few days in this southern latitude when it would not be entirely comfortable to visit all the points I have mentioned, and see the Bridge under a grim-

mer aspect, truly, than when mantled in the garlands of summer, yet with none of its grandeur diminished.

THE TITLE.

THE GRANT FROM GEORGE III.

To Thomas Jefferson in	1774
To Joseph Lackland in	1833
To Houston & Cole in	1838
To John B. Luster in	1841
To Jesse Wooten in	1843
To John W. Garrett in	1849
To Anderson & Hitchcock in	1862
To Michael Harman in	1863
To Asher Harman in	1875
To H. C. Parsons in	1881

Historical.—The earliest mention of the Bridge is by Burnaby, in 1759, who speaks of it as a "natural arch or bridge joining two high mountains with a considerable river underneath."

A bloody Indian fight occurred near here about 1770. Arrowheads, fragments of pottery, pipes, etc., are frequently found in the fields and roads of the neighborhood.

Lightning struck the Bridge in 1779, and hurled down an immense mass of rock.

Washington, when a surveyor for Lord Fairfax, visited it, and carved his name where it may now be seen.

During the Revolution the French organized two expeditions to visit it. From their measurements and diagrams a picture was made in Paris, which for nearly half a century was copied in Europe and America as correct.

The place was much visited in the early part of this century. Marshall, Monroe, Clay, Benton, Jackson, Van Buren, Sam Houston, and others were registered here.

The original Bridge tract was granted by the King to Thomas Jefferson, in 1774. After he was President he visited the place, and surveyed and made the map with his own hands.

The next year he returned, bringing two slaves, Patrick Henry and wife. For them he built a log cabin with two rooms, and directed one to be kept open for the entertainment of strangers. The slaves were never manumitted and never recalled, the survivor dying where her master placed her twenty years before. Jefferson left here a large book "for sentiments." This was written full, and with its priceless record was accidentally destroyed, in 1845. Only a few extracts can be found. Jefferson spoke of it as yet to be "a famous place, that will draw the attention of the world." Marshall wrote of "God's greatest miracle in stone." Clay, of "the Bridge not made with hands, that spans a river, carries a highway and makes two mountains one."

Henry Piper, a student, in 1818, attempted to carve his name the highest, and found that he could not return. He then undertook the incredible feat of climbing to the top, and accomplished it.

Corbin Lackland fell from Pulpit Rock in 1833, and Robert Walker in 1845. Both were killed.

A stranger leaped from the Bridge in 1843, and his body was never identified.

John Rice fell from a crag, but was saved by the branches of a tree, in 1865.

Miss Randolph's celebrated adventure occurred on a large cedar stump, since demolished by relic hunters, which stood near the centre of the arch on the upper side.

The first hotel was built by Major Douthat, a Revolutionary soldier, in 1815, at a place about two miles north of the Bridge. An opposition hotel was built near the former in 1820. In 1828, Captain Lackland, also a Revolutionary soldier, built the first hotel on the location of the dwelling-house of the present owner, calling it Jefferson Cottage. The Natural Bridge Hotel was built two years later.

At present the hotels consist of four principal buildings, Forest Inn, Appledore, Pavilion, and Bachelors' Lodge. These are supplied with running water and connected by bridges, and are in every respect elegantly furnished.

Nelson County lies on the southeastern slope of the Blue Ridge, between its summit and James River. Tye River, a bold mountain stream, starts at the summit of the Ridge, at Montebello, and cuts through the county, affording great water-power. The Crab Tree is a large, mountain creek emptying into the Tye.

The greatest of all cataracts in the Virginia mountains, is the Crab-tree Falls, reached by the old pike road from Vesuvius to Montebello and the Tye River Valley, east of the Blue Ridge. Sheridan once passed a large part of his army across the mountains by this road. At the very summit, from among the topmost crags of Pinnacle Peak, one of the highest in Virginia, comes the Crab-tree to take its fearful course. Thence it descends three thousand feet in making a horizontal distance of two thousand, forming "a series of cascades athwart the face of the rock, over which the water shimmers in waves of beauty, like veils of lace trailed over glistening steel." The course of the stream is distinctly visible from a long distance down the face of the great crag, which contrasts sharply with the leafy masses on each side, and forms a striking landmark. The cascades vary from over five hundred feet in the highest, to fifty or sixty feet in the lowest, and are greatly different in form and appearance. The Crab-tree is not a large stream; in one or two places the entire body of water is compressed into a shooting jet not more than six inches in diameter, but, with the economy of nature, nothing is lost in artistic effect.

Three miles down Tye River the ascent of the falls is begun by entering the forest and a chaos of massive rocks. "The forest is so dense," says H. L. Brigman, of New York, "that scarcely can the sunlight pierce it. Stately oaks, wide-spreading maples and hickories, the birch and beech, with an occasional pine, and at rare intervals the light gray foliage of the cucumber tree, make up a for-

est scene of wonderful beauty. Scarcely are we in the woods, when, looking aloft, we see through the leafy green of tree-tops the white spray of the 'Galvin' Cataract, named in compliment to our guide, and 150 feet high. This is a clear, bold fall, and rather large in volume and force than any of the others. The effects of the sunlight and shadow upon the fall and the forest are exceedingly graceful and picturesque, and from the beginning of the ascent, all the way to the top, the scene changes and shifts like a fairy panorama. . . . An hour or more of hard work and steady climbing brings us to the base of the 'Grand Cataract,' the first leap of the entire series, a clear fall of over 500 feet. It was the Grand Cataract which we had seen from the road far below, and looking upward from its base, the sight was like a sheet of foam falling out of a clear sky. The water, pure as crystal, is not projected with sufficient force to send it clear of the rock, and so it falls over its face, veiling the rugged front of the mountain as with a fleece. Standing at its base and looking upward, the spectator does not realize its immense height, but comparison of the lofty trees which tower into the heavens without approaching half the height of the falls, demonstrates the fact. At the very top and crown of the fall, the configuration of the rock gives the current a sharp diagonal set which adds much to its picturesque beauty. Midway a ledge of a few feet wide arrests the fall and throws it boldly forward in a straight line again adown a sheer and glistening precipice of more than 200 feet. At the base of the Grand Cataract daisies bloom, and the waters are quite shallow."

It is possible to work one's way upward along these capricious cataracts to the very summit, and thence overlook a wide area of primitive mountain country. All about the observers tower peaks of the first rank, heaving against the blue of heaven a surging mass of foliage. "Dotting the mountain sides in every direction are cleared fields in which corn, wheat and tobacco are raised, the clearings sometimes extending to the very summits, while scattered here and there in all directions, nestling in the intervals and pockets of the ranges, are the log cabins of the mountaineers. Safe in these fortresses and upon a kindly and generous soil, with a genial and salubrious climate, the natives live from one generation to another, an easy, thriftless and contented life. No one who sees the view from the head of the Crab-tree Falls or Pinnacle Mountain, no matter what his travels or experience in this or any other country have been or may be, will ever be able to forget its matchless charm, repose and serenity."

Norfolk County—Lake Drummond.—Of all the curious phenomena with which this land of marvels abounds, this far-famed lake may certainly be ranked among the most wonderful. It lies wholly within the limits of the Great Dismal Swamp, of which it also occupies the highest elevation, being 22 feet above mean tide-water, into which it flows on all sides through natural or artificial channels. It is distant from Portsmouth about 18 miles, in a straight line, and about 25 miles by the Southern Branch of the Elizabeth

River and the Dismal Swamp Canal. From the canal it is approached by a "feeder," four miles in length, literally tunnelled through the dense foliage of juniper, cypress, gum and other heavy timber, and the still denser thickets of reeds and undergrowth, which cover the quivering surface of the Swamp. As the visitor merges from the deep shadows of this silent pathway and glides out upon the broad bosom of the shoreless lake, he is at once impressed with the mysterious stillness and vast expanse of his surroundings. a voiceless, eternal solitude! Fish are plentiful in the lake, but not a bird or a beast is to be found in its neighborhood; though the outer margin of the Swamp is said to abound in deer, bears, wild turkeys, and other objects of the hunter's delight.

The Lake, says tradition, was first named Drummond's Pond, after the discoverer; who, wandering through the Swamp in search of game, came upon this sheet of water, and, by following its margin, managed to find his way into the open country, while his two comrades, less fortunate than he, were lost and never again heard of.

During his visit to Virginia, in 1804, Erin's sweetest poet, Tom Moore, of melodious memory, wrote the following lines, which, although familiar to most readers, will bear repetition in PORTSMOUTH SKETCH BOOK, by reason of their own intrinsic beauty as well as of their intimate association with this neighborhood.

A BALLAD.

THE LAKE OF THE DISMAL SWAMP.

Written at Norfolk, in Virginia.

"They tell of a young man who lost his mind upon the death of the girl he loved, and who, suddenly disappearing from his friends, was never afterwards heard of. As he had frequently said in his ravings that the girl was not dead, but gone to the Dismal Swamp, it is supposed that he had wandered into that dreary wilderness, and had died of hunger, or been lost in some of its dreadful morasses."—ANON.

"La poesie a ses monstres comme la nature."—D'ALEMBERT.

"They made her a grave too cold and damp
For a soul so warm and true;
And she's gone to the Lake of the Dismal Swamp,
Where, all night long, by a fire-fly lamp,
She paddles her white canoe.

"And her fire-fly lamp I soon shall see,
And her paddle I soon shall hear;
Long and loving our life shall be,
And I'll hide the maid in a cypress tree,
When the footstep of Death is near!"

Away to the Dismal Swamp he speeds—
His path was rugged and sore,
Through tangled juniper, beds of reeds,
Through many a fen where the serpent feeds,
And man never trod before.

And when on the earth he sank to sleep,
If slumber his eyelids knew,
He lay where the deadly vine doth weep
Its venomous tear and nightly steep
The flesh with blistering dew!

And near him the she-wolf stirr'd the brake,
And the copper-snake breathed in his ear,
Till he, starting, cried, from his dream awake,
"Oh! when shall I see the dusky Lake,
And the white canoe of my dear?"

He saw the Lake, and a meteor bright
Quick o'er its surface play'd—
"Welcome," he said, "my dear one's light!"
And the dim shore echoed for many a night
The name of the death-cold maid!

Till he hollow'd a boat of the birchen bark,
Which carried him off from shore;
For he followed the meteor spark,
The wind was high and the clouds were dark,
And the boat return'd no more!

But oft from the Indian hunter's camp,
This lover and maid so true
Are seen at the hour of midnight damp
To cross the Lake by a fire-fly lamp,
And paddle their white canoe.

From "time immemorial" this secluded and romantic pool has excited the interest and curiosity of Nature's Students, and numbers of excursionists, prompted by one or other of these motives, annually invade its privacy and endeavor to penetrate the mystery of its existence.

The Lake is nearly, round and about, 20 miles in circumference. There are, of course, many theories as to its origin, the most plausible of which, perhaps, is that, during some extensive fire in the Swamp, the crust covering this body of water, then a subterranean pool, suddenly gave way and sank to the bottom. This theory is sustained by the fact that out in the middle of the huge basin, charred trees can be seen in many places still standing, as they probably stood in pre-historic ages, grim guardians of Lake Drummund's secret.

ENGLISH VIEWS OF VIRGINIA.

INDIA AND VIRGINIA.

An English farmer settled in Virginia writes to the London *Agricultural Gazette:*

I was interested in a letter from "M. R. A. C." on India. He surely takes too gloomy a view of agricultural affairs out there, as the figures he gives do not show so very badly compared with some States in America. For instance, he says they have in the Madras Presidency 93.1 of cattle and 76.9 of sheep to the square mile. I do not think it is fair to compare that with countries like England, France, etc.; but to take some States out here—for instance, Virginia. According to the return of the Commissioner of Agriculture, we have no more than 10¾ of sheep per square mile, or about one sheep on every 54 acres I have not seen any return of the number of cattle, but do not think it would show much better than the sheep. Yet this is one of the best countries for cattle and sheep farming. If your correspondent were here, I could show him numbers of deserted villages and farm houses that were laid desolate by the late American war, and thousands of acres of good land laid out to the commons for the want of some one to cultivate it, the present owner not having capital to hire any one, as almost everyone here was completely beggared by the war, losing all they had, and often even the house was burned up by the armies.

I do not think that any one except those who have seen it can form any idea of the state of things in Virginia. There is pasturage here for millions of sheep and cattle; all that is wanted is the British farmer, with his energy and capital, to make this the most prosperous State in America, as England will have to be supplied in great measure with beef and mutton from Virginia, which is only 10 days from London, the central market of the world.

LETTER OF J. W. PORTER, KENWOOD FRUIT FARM.

CHARLOTTESVILLE, VA., February 18, 1879.

Editor of Journal of Agriculture:

Sir,—In your February number there were some valuable hints given under the head of Pomology, which it is hoped will awaken thought.

It *is* doubtful if any State in the Union offers a more promising field for the pomologist than Virginia.

It is quite certain that the same energy, care and skill, devoted to that science here will bring richer returns in many directions than in the most favored of the other States. Nowhere is success assured by simply planting out orchards and vineyards. Unceasing care, attention and labor, is the price of excellence in this pursuit, as in most others. The comparatively few apple orchards of Virginia, but would to-day present a very different appearance, and afford far different returns to their owner's pockets, had they received some of the care and attention bestowed upon *their* orchards by the cultivators of the famous Lake region North. Many of our old orchards can be renovated, while needed care and culture is given to our young ones.

The quality of our fruit is unsurpassed. Our apples and grapes have been exported and tested, and comparing prices received, it would appear that we stand in the front rank.

What other apples have ever brought such high prices as have been paid for our Pippins and Lady apples abroad?

The writer has sold the product of one Wine Sap tree one season for $60.00, and he is informed by a friend that an actual return of more than one hundred dollars was obtained from one crop of one tree. True, such results cannot be hoped for often, nor should they be held up as a criterion, but we may and should establish our pre-eminence as a fruit-growing State.

Since the success of our vineyards in Albemarle, and the triumph of their product in wine at the Paris Exposition, we may safely extend our vineyards, until the slopes of *our* Piedmont are decked with the vine to rival their prototypes in Europe, in beauty and fruitfulness. We have begun; let us continue the good work.

Grapes yield the quickest returns, and requires the largest immediate outlay.

The old saying, "He who plants pears, plants for his heirs," is perhaps as true of the apple as of the pear, but it should deter no farmer from planting, for if we but reflect how large a part of our planning and labors are laid out for those who are to come after us, we will realize the lack of force in any such objection.

Those who cannot buy can plant seeds and raise their own trees, and as they get size, graft on desirable kinds.

And thus every plan possesses some very decided advantages if seeds of healthy, vigorous stock alone be planted.

The Damson, which is perfectly hardy and bears enormously here, should be more largely cultivated, and there would appear to be no good reason why the choicer varieties of the plum will not do well. The same enemy we shall meet doubtless which everywhere attacks that fruit. But the "Little Turk" will surrender to the same treatment here by which his ravages are stayed elsewhere.

The cherry flourishes here as it does nowhere else, and yet fine ones are scarce and high in price. Fine Biggareaus sell often in New York at 25 cents per pound.

We can produce fruit equal to any in the world, but there is a

general lack of skill in preparing it for market, and thus there is a disappointment in the returns. This we may remedy by careful assorting and packing.

There are many localities in our State which are doubtless pre-eminently adapted to the profitable culture of certain fruits. Such locations should become the centres of production for such fruits.

There are many advantages in concentrating production which are to be considered, aside from that which an acquired reputation brings. Among these may be named the increased price which large lots often bring, and the ability to secure lower freight, and the power to attract capital to move it for exportation or convert the production into other forms for market—as into wine and brandy through the wine press for grapes, and through drying-houses and canning factories for other fruits.

The processes for making cider and vinegar in our State are wasteful to the last degree, and we can only do better when we are able through co-operation or some other means to procure better appliances.

There are many reasons for thinking that the peach zone will ere long be located southward.

The great peach orchards of Maryland and Delaware appear to be failing, and it may prove in a very short time that planting these will be no longer remunerative. The habitat of the peach has been constantly shifting since the early settlement of our country, and it is known that many places will not produce peaches where once they throve luxuriantly. Just as soon as a favored spot is found it will be wanted.

J. W. PORTER.

AN ENGLISHMAN ON VIRGINIA AS A FIELD FOR EMIGRATION.

VIRGINIA AS A FIELD FOR EMIGRATION.

This article by Mr. J. F. Jackson, an Englishman, was read before the State Board of Agriculture and endorsed by them. A copy was also sent to *Blackwood's Magazine*, Edinburgh:

As an English settler in one of the Southern States, the writer has been much interested in reading the article in the *Magazine*, which only reached him at the beginning of April, and he has felt that it called for some comment, especially as from the tenor of it the writer appears to be a gentleman settled somewhere south of the Potomac, and in that part of the country which is now (in the present writer's opinion with great justness) being pressed upon the notice of Englishmen as a desirable place wherein to find a home. The writer desires his remarks to be taken to especially refer to Virginia (the Old Dominion State), the most northern of the Southern States, and one comprised within the area of country mentioned in the article and with which he is most particularly acquainted. Any one reading the article in question would undoubtedly arrive at the same conclusion as the friend referred to

therein, who concluded that the writer himself had been "hard hit," and although he disclaims this, and therefore one is bound to accept the disclaimer, yet the impression will remain that there is an element of truth in the surmise. Now, at the outset, I would say that in one thing I do agree with the writer—viz., that this country is not the place for young English gentlemen to come with the idea that they can here lead the English country gentleman's life and enjoy all the comforts and conveniences of home; but in this respect I claim that it is not singular, for if I am rightly informed (and I believe I am) the same conditions apply to every other country offering homes to settlers. The very fact that there is ample room for settlers in any country implies of itself that the soil has not been brought into subjection by man, and that before it can afford the conveniences and comforts of the "old country" it must be cleared and cultivated at the expense of much hard labor and houses and buildings must be erected and furnished before it can become home-like. Now, this clearing, cultivation, and building is work very dissimilar to anything which happens in the ordinary way of an English country gentleman's life, and to a gentleman coming from a city home must especially appear most trying and disheartening, as only time and perseverance can accomplish the work. All this, however, only goes to prove not that a new country is not fitted for the comfortable existence of the overcrowded population of the old country, but that those who come should only be men who are determined to work and persevere, and if they belong to this class, whether they be gentlemen or laboring men, they can make headway and a home at the least and very frequently much more than they ever could have done at home. In another matter I must also take leave to differ from the conclusions of the writer, and that is as to it being most inadvisable for a new settler to invest his capital, whether it be large or small, in the land (and in this I do not mean it to be understood that I recommend that he should buy at once, for in this I to some extent agree with the writer and would say rent for a time, and thus employ your capital *on the land*, though I think this question of buying at once does not so much apply in an old settled State like Virginia as in new settled States as I hereafter show), but rather hoard the capital and go into some professional or mercantile occupation. I do not hesitate to say that no more unwise proceeding could be adopted by any gentleman coming here, for even if he succeeded in getting over the difficulties of entering the professions, which are not small, as new examinations have to be passed and other conditions complied with, he would then find the profession he had chosen, whether legal or medical, so overcrowded that not one-half of the members were able to earn a comfortable livelihood, and no better proof of this can be given to an English gentleman than the fact that the salaries attached to even the prizes of the profession in the legal department—viz., the judgeships—are in few cases more than from £300 to £400 per year, and even in the Supreme Court do not exceed £1,000 or £1,500 per year, and yet there are thousands of lawyers here ready to accept them; and in the medical

profession the same condition of things applies, as nearly all the doctors except the leading men in the large cities are engaged also either in farming or some other occupation to enable them to eke out a living. The statistics also of mercantile life here do not show such a record as to make it the good opening the writer of the article would lead one to suppose. Something like 90 per cent. of all those who go into mercantile pursuits in this country either become bankrupt or have to make arrangements with their creditors, whilst the remaining 10 per cent.—not more than one-half—succeed in making more than a bare living. Surely there is here food for reflection and ground for doubt as to the wisdom of the writer's advice. However bad the farmer's lot may be it cannot show a worse record than this, but on the contrary it does show a much better one, for even at the worst nine-tenths of those engaged in that occupation at least secure a good livelihood, for with very little exertion indeed they can and do produce on their farms sufficient of nearly all the necessaries of life and many of the luxuries to enable them to supply the needs of themselves and their families. Having thus cleared the way of one or two objections, I would like now to say that, in my opinion, the great mistake made by the majority of Englishmen coming to America, is that they are induced to go out to the Western and Northwestern States under the idea that they can there obtain either free land or land at a very low price, and have a fine climate and comfortable surroundings and society, and they find, when too late, that the only free land to be obtained is that far distant from railroads and means of transit, and that their crops when raised are valueless on account of the high cost of marketing them; that the climate is for a large part of the year so severe as to be almost unbearable, and that there is a total absence of society and those home-like comforts to which an Englishman is accustomed, and, as a consequence, the settler at once becomes discontented and blames the country for his lot instead of himself. If the intending settler would, before starting out, make inquiry for himself and seek for that part of the State which more closely approximates to the climate and conditions of life to which he has been accustomed, and there determine to settle himself, he would much more frequently be apt to be satisfied, successful, and contented in his new home. No doubt the writer of the article is right in suggesting care and caution in the investment of capital in land until one is first satisfied by experience as to climate and modes of farming, but this caution is many times more applicable to such an investment in the newer-settled States than in the old ones, for there the "land sharper" and "railroad man," seeking to disp of ill-gotten spoil, is much more abundant, and the fleecing of newcomers is looked at with much more leniency by those whose duty it should be to protect them than in the older-settled States. For an Englishman there can, in my opinion, be found no State in the Union where he will sooner feel at home than in Virginia, and where he will less miss those comforts and conveniences to which he has been accustomed. He will find there a genial climate—neither too hot in the summer nor too cold in the winter for regular

work all the year round—its proximity to the ocean on the east and the range of mountains on the west modifying the climate so as to make it most enjoyable and fitted for outdoor life. He will find farms for sale with comfortable, and, in some cases, handsome houses and buildings upon them, and of sizes varying from 100 acres to 1,000 acres, and fitted for the production of all the crops to the culture of which an English country gentleman or farmer has been accustomed all his life, and with the addition of Indian corn and tobacco. These farms can be bought at prices frequently not higher per acre than the rent paid per acre per annum in many cases in England—say from £1 to £5 per acre—and will, with the like cultivation and maturity, produce as good crops as the land in England, whilst this produce can be sold for as good prices as can be obtained for the like crops elsewhere (the price of wheat, for instance, is very nearly the same here as in Liverpool), and they are as well fitted for the raising and feeding of live-stocks of all kinds as lands in any other part of the world, whilst their proximity to markets enable such produce and stock to be disposed of with facility and at fair prices. The taxes on the lands are light, rarely exceeding in any of the counties of the State, for both State and county tax, $1 to $1.50 on the $100, or say 4s. to 6s. on the £20, and the assessment is based upon low valuations of the property, and therefore, contrary to the statement of the writer of the article, forms but a very small burden even upon land not under cultivation. Much of the land is not assessed beyond from £1 to £2 per acre, and the taxes, therefore, are rarely more than from two pence to three pence per acre per annum, and this assessment includes buildings of all kinds. He will also find good railway communication to all parts of the States and in the eastern portion good water carriage by steamer and boat to the Northern and Eastern markets. And, above all, he will find a people intensely English in feeling and thought, and rejoicing in the fact of their English ancestry, and still amongst the old Virginia gentlemen delighting in old English sports and pleasures. All these things will tend to soften the difficulties in the way of life, and make the new-comer apt to be more contented and thus more persevering, and, with perseverance, undoubtedly more successful. He will also find the farms to consist partly of cleared land, ready at once to produce crops, and partly of original and second-growth timber, which, when cleared, will produce good crops, and the timber itself is so near the markets as to be valuable, and also serves him for building, repairs, and fuel on the place. The fact that in Virginia there is still room for thousands of good, thrifty emigrants is news, the writer knows, to most of the English people, as they are under the impression that, being the oldest settled State, it has long been completely filled up, and that land is there as dear as in England; but this is not so, and it is accounted for easily. Previously to the war the land of the State was held by the old planters' descendants of the original settlers in immense estates, many of them originally acquired by grants from the Crown of England, and upon which were fine old mansions after the English type. These estates were cultivated by slave labor and

produced the finest wheat, Indian corn, and tobacco crops, and made the planters the wealthiest people in the States. The war, followed by the emancipation of the slaves, altered all this. The planters lost not only their capital but their labor, and thus placed were unable to cultivate their estates and had no alternative but to allow them to revert to their original wild state, as no steps were taken by the State to induce emigrants to come into the country to occupy them, and the planters themselves had not the means to do this work. There are thousands of acres now growing pine timber of large size where the corn rows can still be distinctly traced, showing them to have once been in cultivation. This state of affairs has continued down to within the last few years, since which time, in consequence of the gradual recuperation of the State from the effects of the war and the thicker settling of the newer States, immigration has commenced to run into Virginia from the Northern and Northwestern States, and now there is a regular stream of people coming into the State from the North and West in order to be nearer the markets and to escape the rigorous winters. The State has also taken steps to make known the advantages which it can offer, and contemplates wider action so as to bring the facts to the knowledge of the English farmers, whose presence here is much desired. Within the last few years a number of English people have settled here, and they have done well wherever they have perseveringly followed their work and judiciously expended their capital. There is a wide field for them, as the State is not only suited for arable culture, but also for stock-raising and dairy-farming and its nearness to the markets of the North and East and to Europe, and its fine climate and freedom from cyclones and blizzards peculiarly fit it to compete successfully with any other of the States. In Southwest Virginia a very large quantity of the beef imported into England is fed, one gentleman (an Englishman) having there one of the largest cattle-feeding farms in the States, and the finest herd of short-horn cattle in the world. In addition to the agricultural resources of the State, it is now found to possess one of the richest mineral fields in America, and this is just being developed by Northern capitalists. Iron ore of the finest quality, and inexhaustible in quantity, is found to exist in close proximity to limestone and coal, and furnaces are being built, manufacturing establishments erected, and cities founded, where, twelve months ago, green fields and forests only were to be seen. In addition to iron, nearly every mineral of use in either the arts or manufactures is found in paying quantities in the State, and many of these are being worked and manufactured. The products of these mineral fields can be now manufactured and delivered in the great markets of the States at less cost than in any other State in the Union, and these conditions render success certain and progress rapid. This must react upon the agricultural progress of the State and improve the chances, already good, of those who may come here to farm, whilst they open out fields of employment for capital and surplus labor nowhere else to be found so close to England. In the face of all these facts, which are within he writer's own knowledge, and will, I doubt not, be confirmed by he Hon. Thomas Whitehead, the State Commissioner of Agricul-

ture, he fails to see any reason why Englishmen should be deterred from coming here, or why so gloomy a picture should be drawn as that of the writer of the article referred to above; but, on the contrary, thinks that thousands of those now suffering from hard times and bad seasons in the "old country" might, with advantage to themselves and both the old and new country, transfer themselves and their capital to this State. Here they will be sure of a hearty welcome, and need neither lose their health nor their capital if they will only be careful to make inquiry for those parts of the State where the particular branch of farming, or other industry which they desire to follow, is most practiced, and this they can ascertain free of cost by applying to the State Commissioner of Agriculture, at Richmond, who will assist and direct them with counsel and advice. Information coming from such a source may be relied on, as the State has no lands of its own to sell or any in which it is interested, except so far as it is interested in the welfare and prosperity of the whole State. The writer's advice (and it is given as the result of personal experience) would be to come on to this State at once. It has just made a new start in the race, and those who enter at the earliest will stand the best chance of being the winners. It formerly stood at the head of all the States in wealth and importance, a position gained solely by its agricultural resources, and it is still as well fitted to do so on that ground alone as it ever was, and when to these is added its new-found mineral wealth, he would be a bold man who would declare that it was not destined once again to stand in the fore-front of the States in all that gives position and prominence to a country.

ANDERSONVILLE, BUCKINGHAM CO., February 22, 1887.

I find I must diversify my products. Depending on tobacco altogether won't do; its like putting all your eggs in one basket, and then tripping over a stone—all are gone. Clover and orchard grass do undoubtedly flourish here, and on some of my heavy clay land I have grown it as heavy as I ever saw it in England; and with plenty of clover, sheep, hogs and cattle will flourish, and these mean large manure piles, and this, and *this only*, will make *black, fat tobacco*—the article always in demand at paying prices. Now, there is a good deal of light land, as well as red clay, through this section, on which the pretty yellow tobacco can be grown. I tried an experiment with that last year; bought a set of flues, and, for a novice, I was well satisfied. I got $15 for some, $20 for some, and $25 for about one hundred pounds of my best.

The soil is so diversified, the climate is so delightful, the range of crops is so wide and large, the working season is so long, the water is so good and so abundant, and farms can be bought so cheaply, that it has been a source of wonder to me that thousands upon thousands of Northern farmers have not bought and settled here. Englishmen hate to give up the old flag, and this is the main reason why they don't flock here. If Virginia were to-day a British colony 100,000 Britishers would settle here in the next twelve months. Yours truly, J. W. HEBDITCH.

Prince Edward Hand Book.

ADDITIONAL FACTS.

STRAWS SHOW THE CURRENT.

ELKHORN, NEB., January 16, 1889.

Editor Cornucopia:

My Dear Sir,—Your kind and welcome letter came to hand so long since that I am almost ashamed to answer it. At the time I was in California, but have been back for a couple of months. After I got through with my business I took a trip through the principal parts of the State to visit old associates. You must remember I lived in California twenty-odd years in an early day, and my acquaintances were pretty well scattered. I see a great change in the last fifteen years. But for my use I would not give Norfolk county, Va., for the whole State of California. Everybody is anxious to sell out, and nearly every man is a real estate agent, until he finds as big a sucker as he has been. In portions of the State the climate is very fine, but that is about all there is in it. There is no money to be made only in speculation, and *suckers* are getting scarce. There is very little market for produce, fruit, etc., consequently the market is overstocked, and everybody wants to get away. If I could only sell out here, you would see my ugly mug inside of ten days. Last season has been very dull; however, I am in hopes things will liven up this season, and the prospects are very good for a lively year. I shall sell just as quick as I get a fair offer. I don't wish to sacrifice, but I think by fall I shall accomplish some sales. The weather here this fall and winter has been very mild. So far we have had no snow worth speaking of. Ice is now only about seven inches thick. In fact if we don't soon have colder weather the ice crop will be a failure. Last night it rained all night. This morning it is a little colder, snowing a little. Our ice crop is almost equal in value to our corn crop, on account of our immense packing establishments, some of them putting up as much as 100,000 tons. One ice-house, close to Omaha, covers two acres of ground and is fifty feet high. Several others cover an acre and over, but when I can dispose of my property here, they can take their ice and everything else. I prefer oysters and spots in mine. By the way, the next time you have spot for breakfast, think of your humble servant. Now, Colonel, I think I have written everything of interest that I can think of. I have some very fine property in Omaha that rents well, and is bound to be very valuable. I will

exchange any of it for Norfolk property. I hear of a great many exchanges for Florida lands, but I don't want to go so far South. Had I that Lynnhaven property back again, he would be a dandy that got it away from me.

Give my kind regards to all. Have my *Horn* changed to Elkhorn, Neb., as I am now back on my old stamping grounds.

Yours, J. B. Silvis.

WHAT PRACTICAL FARMERS HAVE DONE AND ARE DOING WITH PRINCE EDWARD SOIL, AND WHAT THEY SAY OF IT.

Before the war Colonel Henry Stokes owned a large number of slaves and worked them on the very valuable estate, of which he is still the owner, located some five miles in the southeastern direction from Farmville, and containing 1,109¼ acres. The object of what we now purpose writing is simply to demonstrate that on the same lands, under the system of *free* labor, he has succeeded better than he ever did with slaves, and if we are fortunate in establishing this fact, it seems to us that lamenting over losses is no longer in order, but that the time has come that farmers should realize, just as merchants and others have long since done, that it is as practicable and possible to make money since, as it was "befo' de wah."

At the surrender the Colonel was left, just as the rest of the land owners in Prince Edward and all this section of Virginia were, with the naked land and nothing besides. Teams all gone, implements worn out or destroyed, fences fallen down, ditches neglected, provisions exhausted, no currency, no credit, and not a slave to his name. A few army horses were picked up, and, with such implements as had escaped total destruction, the boys and *free* labor made the first crop.

Under the old system, the working force on the place consisted of about twenty-five hands, big and little, and about an average year's yield was made up of 350 barrels of corn, 40 stacks of oats, 400 bushels of wheat, and from 20 to 25 hogsheads of tobacco.

Under the system now in operation, there are eighteen regular hands employed, and about an average year's work results in 1,200 bushels of wheat, 75 stacks of oats, 500 bushels of corn, and 40 to 50 hogsheads of tobacco. Mark the difference in favor of free over slave labor on a farm located and worked in Southside Virginia. And now as to how all this has been accomplished. The farm remains one, but has been so divided for working purposes that there are really six different farms, on each of which there are three regular hands and one pair of mules. A healthy rivalry exists between them, and, under the direction of a "level head," the separate commands of this army of laborers move on to a common victory. No one farm contains quite 200 acres, but each is supplied with about an equal amount of up-lands and low-grounds.

Of the seven sons of Colonel Stokes, all young boys at the close of the war, it may be said that they have fed upon and fattened upon

these acres. Not one of them has gone West because Virginia was too poor to furnish a decent support, but they have all remained in Virginia, *six of them on farms, three of them on this farm*, and all of them to-day the owners of fine property, "owing no man anything," independent, hardworking and happy. *The old homestead did it.*

Let us give a simple account of a year's work of one of the brothers, Mr. H. A. Stokes, who has never left the place, but has been farming right there since the war. He has charge of the acres lying on the west side of Bush River, and which he has divided into three farms, with three hands and two mules on each.

AMOUNT REALIZED.	
The land is assessed, as we suppose, at $15 an acre,	$6,000
Wages,	800
Feeding hands,	324
Value of team,	800
Farming implements,	500
Feeding teams,	216
Guano bill,	300
Taxes,	150
Personal expenses,	300
Total,	$9,390

AMOUNT INVESTED.	
Income from tobacco,	$5,000
" " wheat,	700
" " oats,	150
" " corn,	300
Meat, hay, cattle, etc.,	250
Total,	$6,400

We do not pretend to be strictly accurate in these figures, but they are so nearly so as to serve our purpose, which is to challenge the *world* of legitimate workers to "trot out" the man who is doing so well in a *safe* business and on the same amount of *capital invested.* If such figures as these don't encourage our young men to stick to the old home and to the *work* to be done there, with such hope of reward, we don't know what will.—*Prince Edward Hand Book.*

A PENNSYLVANIA FARMER.

W. L. Scott believes that there is no place like Eastern Virginia.

Ex-Congressman William L. Scott, of Pennsylvania, who was in New York Sunday, was interviewed by a *Star* reporter. Among other things, Mr. Scott is quoted of saying: "The climate of lower Maryland, as Eastern Virginia, is always conducive to health in the winter time, and Fortress Monroe has had a very successful season this year. Few people in this country know that within nine hours of New York they can reach a climate as mild and balmy as that of Marseiles in France. By taking the railroad to Cape Charles, a boat transports the cars by water to Fortress Monroe and Norfolk, where we connect with the different Southern railroad systems. Cape Charles is having a harbor that will cost from $250,000 to $300,000,

and is destined to be the greatest oyster, fruit and farm-truck shipping point in the United States.

The counties of Accomac and Northampton, in Virginia, are in an almost tropical climate the year round. Land there is worth from $10 to $20 an acre, and is just as fertile as any of the garden spots on Long Island that cost from $600 to $800 an acre. The advantages of the climate give the farmer there six weeks advantage over the Long Island farmer. Then this line of railroad contracts to put the products of the Virginia planter into Fulton Market just as cheap, if not cheaper, and just as cheap as the Long Island trucker can make his haul across the city, paying ferriage, etc. For instance, a man at any of our new points on the Peninsula picks his products in the evening, and they will be in Fulton Market the next morning at 5 o'clock.

Take a compass and draw a circle over the lower Chesapeake, within a radius of seventy-five miles of Cape Charles, and you will find that 18,000,000 bushels of oysters are gathered there every year, while there are only 4,000,000 bushels gathered in all the other waters of the country. You can easily see what an oyster market and packing centre Cape Charles is likely to become. About 3,000 bushels of oysters can be taken from an acre, while wheat yields on an average of about twenty-five bushels. Taking all these things into consideration, this new railroad down the peninsula has a far broader significance to New York and Philadelphia than most people have imagined."

LAND PROFITS IN AUGUSTA COUNTY.

Colonel John H. Crawford, member of the Legislature, for ten years kept books, and his return on land, 300 acres, for which he paid $83 per acre, was 10 per cent.

E. T. Dudley, for three years on land, which he paid $70 an acre for three years ago, has made 12 per cent.

A. H. Towberman, on land for which he paid $40 per acre, has made 15 per cent.

James M. Stont, on 300 acres, for which he paid $75 per acre—farmed on the shares—his, the landlord's share, for ten years, netted him 10 per cent. The tenant, a poor man, who had nothing but two horses, a wagon, $200 and two children, and had to incur a considerable debt to stock the farm, in ten years paid off that debt, owned without debt six horses, wagons, plows, harvester, cows, and all the plenishing of a large farm; eight children, only one of which had been at all useful to him, and he only for two years, and had besides $7,000 in money.

Mr. W. T. Rush, on land worth from $25 to $30 per acre, and 18 miles from the depot (now within three of one and two of another), for twenty-five years cleared 8 per cent.

What is said of Augusta may be affirmed of all the Valley counties.

A NEW YORKER.

LOUISA C. H., VA., February 6, 1889.

Mr. J. J. PORTER:

Dear Sir.—Yours received, and I will state I came from Wisconsin in 1887, and purchased a farm of nearly 300 acres in Louisa county, Va., and I am delighted with my purchase and the people; and as for health and climate, is the best I ever heard of. My wife was an invalid when she came here, but is now all right.

We raise corn, wheat, oats, tobacco, hay, all kinds of fruit, and wild berries in profusion; in fact, there is everything a man could wish for.

I would further say that I was formerly from Erie county, N. Y., and lived in Wisconsin 30 years, and I have looked over the West pretty well. I sold my Wisconsin farm for $5,200, and I would not go back if I could have it for nothing.

Yours truly, A. C. DAKE.

TWO BUCKEYES IN NORFOLK, VA.

We left Norwalk on the 4th of February, at 8 o'clock, reaching Cincinnati in the evening, and, transfering over to Covington, took the Kentucky Central to Winchester, and thence to Charlottesville on the Chesapeake and Ohio Railroad. After seeing the home of Thomas Jefferson and the University he established, we arrived in Richmond at 9 o'clock P. M. of February 5th. The next day we viewed the State Capitol and the great monuments in memory of Washington and other prominent men. We then took the train for Newport News, where we boarded the steamer and steamed along the Chickahominy and James Rivers, through the Hampton Roads, one of the greatest seaports in the world. We viewed old Fortress Monroe and the Government hospital. We arrived in Norfolk on the evening of the 6th. Next we visited over the river in Portsmouth and the Navy Yard, examining the new building of drydocks and iron clads. We went on board the steam cruiser, "Pensacola," lying at the docks. The grounds embrace sixty acres, and six hundred soldiers are stationed there, and their parades were a grand sight for a "back woodsman."

Our next point visited was Virginia Beach, eighteen miles from Norfolk. On our way we stopped to visit La Selle Jackson and his good wife, who are pleasantly situated, and possessors of 1,100 acres or more of grand land. We will always remember with pleasure the kind hospitality we received from them. Virginia Beach resort boasts of a building, the Princess Anne Hotel, which encloses ten acres of ground, a mammoth structure. This being our first sight of salt water, we tasted it and picked up shells to our hearts' content. In both going and returning, we passed over the Alleghany Mountains, and enjoyed some of the finest scenery we have ever witnessed. At the highest peak, from 3,000 to 6,000 feet above the

sea level. we could look down long, winding valleys, with the cloud rifts floating between.

Norfolk is a seaport city of 45,000 inhabitants, a great exchange centre for cotton and general produce. The climate is mild. We found the gardens nicely started, peas six inches high, and cabbages, potatoes, and other vegetables nicely growing. While we Northerners shiver about the winter fires, these people are gathering in and marketing their produce every month in the year. When one thinks of the aches and pains, and the sufferings of the unclad and poorly fed, the frozen out wheat and clover, the Sunny South offers attractions that rob the words, "Go West, young man," of all force in contrast. The South is the land of agricultural plenty, where the bugs and worms do not hold first mortgage claims on the farmer's crops, nor winter and its attendant diseases rob life of pleasures. This Garden of Eden country, with its bracing, refreshing sea breezes, a perpetually blooming garden of happiness and health, offers inducements to the transient visitor to linger forever, no other region can.

The prejudice against the people of the South, growing out of the slanders against them so frequently heard in the North, is fast melting as we visit them personally. They are the most hospitable, generous and cultured people, as a class, to be found anywhere. Should we find it necessary to change our residence, it would certainly be to the South, and to all doubters we say, go and see where health, wealth, prosperity and happiness go hand in hand with a generous, hospitable, law-loving people.

Respectfully, JOHN J. SMITH,
LEVI SUTTON.

THROUGH THE VIRGINIAS--AN OHIOAN.

OVER THE CHESAPEAKE AND OHIO—RARE SCENERY—HISTORIC GROUND.

He who has in immediate prospect a journey through old Virginia is to be envied. Aside from the fact that nearly every foot of her soil is historic ground, she is rich in beautiful mountain scenery and natural phenomena. From Kanawha Falls, on the Chesapeake and Ohio Railroad, east to Clifton Forge, may be seen an unbroken chain of varied and delightful scenery, challenging the admiration of every one who looks upon it.

These huge piles of craggy earth seem to serve no purpose but to please the imagination; but, upon inquiry, I was told that some of these lands, which a few years ago were selling for only 25 cents per acre, were now worth $100 per acre. So equitably does nature adjust her affairs, that all portions of the globe have sources of wealth. The extent and value of the mineral resources of Virginia cannot be computed. Here are found in vast quantities, coal, iron and a superior quality of black slate. There are also extensive quarries of

granite, so plentiful, indeed, that it is now used in some of the finer buildings.

East of the Blue Ridge, and especially along the James River, are some of the best agricultural land that can be found anywhere. Most of these farms, or plantations, have not been subdivided since the war, and bear evidence of a want of good husbandry.

One of our thorough Ohio farmers would, in a few years, work such a transformation in the appearance and value of these lands, that they would easily rival the famed lands of the Scioto Valley. These lands possess the advantages of easy tillage, convenient markets, fertile soil, and easy cultivation. The climate, too, in this latitude is such that two crops are frequently taken from the same field in one season. There is absolutely no danger from early or late frosts to the various fruits and vegetables produced in this favored climate.

The enterprise and growth of the cities in what is called the Tide-water district, will excite the interest of the observer. Richmond, at the head of tide-water navigation, is making wonderful progress. It will bear favorable comparison with the most enterprising Western city, being the capital of the State, and possessed of superior advantages, it bids fair to become one of the leading cities of the Union. More highly favored in many respects stands Norfolk, on one of the best harbors in the world. It only needs the impress of Northern enterprise to become an early and formidable rival of Richmond. It already surpasses her in commercial importance, but is behind in manufacturing industries. It is a pity that the wasted energies of the colored portion of the population cannot be employed in making boots and shoes instead of blacking them. A little capital and Northern enterprise will work wonders for this city. No one knows this more fully than the Virginian, and from our experience and observation we confidently assert that those who are willing to aid in the development of these resources from whatever land or clime he hails, will receive such cordial welcome as will make him feel that he is indeed among friends. The reputation of our Southern neighbors for hospitality is verified in the experience of everyone who does himself the pleasure of making them a visit.

Schools and churches are as plentiful as in the North, and the moral and educational standing of the average Virginian has not declined since the days of Jefferson.

The historic places about Richmond and Norfolk will justly claim the attention of the tourist, and he will be pleased to note that here, where the tide of battle rose highest, all marks of strife are covered with the mantle of brotherly love. The warm welcome extended to the progressive men of the North, added to the natural resources of the Old Dominion, will, ere long, cause her waste places to rejoice, her cities to flourish until they attain the place in the commercial world designed by nature and demanded by this progressive age, and will, above all, arouse her people from the lethargy of the olden times. For the consummation of these, the olden times are ripe and the era of prosperity is at hand.—*Buckeye Farmer, Mansfield, O.*

MR SCOTT'S GREAT TRUCK FARM.

ONANCOCK, VA., April 29.—In spite of the many heavy rainstorms in this section the present season, farmers who planted fall and winter crops are succeeding well. Captain Orris A. Browne, who has charge of Hon. William L. Scott's Hollywood Place, near Cape Charles, the largest truck farm in Virginia, has just finished delivering in Northern markets his winter and spring crops of kale and spinach, aggregating 46,785 barrels. The early crop of cabbage on the same farm, which will be ready for market in two weeks, will probably exceed 20,000 barrels. Crops of pease, strawberries, Irish potatoes, egg plants, tomatoes, onions, etc., will follow, which, with the crops of corn and oats to be raised for consumption on the place, will make, it is thought, the largest amount of produce ever gathered in one year from one farm in this State. A large guano factory has just been established on the place, and arrangements have been completed for erecting a large canning establishment to put up the fruits and vegetables from the farm and the excellent oysters that abound in the adjacent waters.—*Baltimore Sun.*

COME AND SEE.

We wish some of the Northern writers who tell about the persecuted Northern Republicans in Virginia could go to the Natural Bridge and see Colonel H. C. Parsons and his private cottage and his public grounds and hotels, and his 2,000 acres of land, his grass fields and forests. No doubt many of them would pray to become martyrs. Some of the most active, spirited, prosperous Virginians in the State are English, Irish, Scotch, German and Yankee agriculturists. We have seen all together mixed up, eating, talking and working with all sorts of Southern men, Confederates and Federals, and no man could see any difference in the rights, privileges, courtesies or accommodation extended and accorded in public or private life.—*Southern Planter.*

VIRGINIA SUMAC.

The *News*, of Lynchburg, referring to the cultivation and drying of sumac, says this is an industry which was started in this city in a small way by one of our citizens a few years ago, and is growing to large proportions. The Virginia sumac was scarcely known as an article of commerce at that time. The Sicily was almost universally used by the tanners and morocco dealers and dyers. The price of the untried Virginia leaf manufactured, was about $30 to $35 per ton, while Sicily readily commanded $120 per ton. In the course of events the crop in Sicily was blighted for two successive years, and the consumers were driven to the use of Virginia leaf, and since the trial the two articles have come to be esteemed very differently. The Virginia now competes very successfully with the Sicily, and if

the gatherers and manufacturers would be more careful in the drying and preparation of the leaf, the Virginia product would outstrip the Sicily. If the Virginia tobacco raisers could be induced to have the sumac leaves, which grow all around them, gathered at the proper season, haul them to their tobacco barns (most of which are supplied with flues), and dry the leaf by artificial heat instead of the sun, as is now done, they would realize more clear money than they do by their tobacco crop, the production of which is attended with labor and expense from the day the plant-bed is burned, and for twelve months afterwards, when they bring their weed to market and sell it (in some instances) for less than a dollar a hundred. The sumac could be gathered and cured easily in their tobacco-house, and sold readily at a dollar per hundred in less than a month.

This industry has grown to proportions in this city, which are by no means contemptible. A few years ago only one ton per day was manufactured here. Now about eight or ten tons is the average daily output, and if the material, which grows spontaneously in the fields and along the hedgerows, were gathered, cured, and brought to market to be utilized, it could be increased very largely. The market for this article is almost limitless; the raw material grows almost everywhere.

ADVANTAGES OF THE SOUTH.

In his recent travels through the South, and especially in Virginia and North Carolina, Mr. Hinter A. Helper speaks in glowing terms of the outlook throughout the Southern States. Mr. Helper gives the following correct and excellent reasons why people of the North, who desire to improve their fortunes and prolong their lives, should go South.

First.—The lives of tens of thousands who are injuriously affected by the sudden changes and the extreme cold of Northern winters will be prolonged many years.

Second.—Considering the social, educational and religious advantages, transportation facilities, public improvements and fertility of the soil, the lands are cheaper than can be found in any other part of this country.

Third.—Taking into consideration the cost of land and expense of tillage, a much greater net profit can be realized annually than is realized in any Northern or Eastern State.

Fourth.—The present price of lands not being at all proportioned to their productive value, the general advantages being equal, if not superior, to those in other sections, an investment in land in the South is highly profitable.

Fifth.—In no other section of the country is the practical farmer and land owner held in so high esteem as in the Southern States, and nowhere on the face of the earth will the Northern farmer and citizen meet with such a hospitable welcome as awaits him at the hands of Southern people.—*Pulaski News.*

THE SOIL OF VIRGINIA

is as varied as the colors in a crazy quilt. Parts of it produce wheat equal to Dakota, corn equal to Illinois, potatoes equal to New York, cotton equal to Georgia, while its tobacco is the best made. Apples, pears, peaches and grapes are raised almost without labor, and cattle at half the cost in the colder climates.

The earth, which is so fertile on its surface, contains beneath it coal, iron, limestone, gold, copper and lead, with every variety of superior building stone.

One of the best harbors on the continent is upon the coast of Virginia, while its tide-waters furnish an inexhaustible supply of oysters and fish.—*National Republican.*

BALTIMORE, MD., April 24.—*The Manufacturers' Record* recently asked a number of leading Southern bankers for their views upon the condition of business in their section and the prospects. Replies have been received from a large number, and, without exception, they tell of great improvement in business, of activity in trade and manufactures. In the last two years the South has raised over 14,000,000 bales of cotton; over 1,000,000,000 bushels of corn; near 100,000,000 bushels of wheat; 160,000,000 bushels of oats—the total value being over $1,600,000,000, which is far in excess of the value of the South's agricultural products in any two consecutive preceding years.

A CAUTION.

Perhaps the most astonishing of many recent developments of human perversity is the number of persons from this neighborhood who are making preparations to migrate to Oklahoma at heavy expense, and with a fair prospect of finding two, three, or four claimants to every decent acre of soil in the territory, when fair farming land and a beautiful, well-wooded and well-watered country of charmingly diversified surface is to be found right at home in the neighboring States of Maryland and Virginia. The money spent in getting to Oklahoma, paying for one's camp outfit, staking a treeless, badly watered claim, recording it and getting out a patent, carrying on a lawsuit of indefinite length, hiring a high-priced back woods surgeon to dig out the bullets, which unscrupulous "jumpers" and brigands have fired into one's body, and buying a ticket for the East again when all is over, would set a young man up on a first-rate ranch within a hundred miles of Washington, with railroads and a market almost at his gates, cheap food and clothing, plenty of help at low wages, the comforts and pleasures of civilization within easy reach at any hour, and a fair chance of striking something rich in the mineral line in addition to the value of the land for agricultural purposes. The rush from the Atlantic coast to the wild West is like letting go of two birds in the hand to run after one in the bush.—*Washington Star.*

TITLES OF REAL ESTATE IN VIRGINIA.

The law of Virginia requires all records and transfers of real estate to be carefully kept in the County Court Clerk's office of the county where the real estate is located. All mortgages, deeds of trust, judgments, or liens of any kind, must be duly recorded in the Clerk's office, or they will not be a lien on real estate. Thus, it will be seen, parties buying need not fear bad titles, as the Recorder's office must show all liens on any land, or they will not bind the real estate.—*Ex.*

In our opinion, the complaint made by Northern settlers in the past (and we admit there has been much) has not resulted from the purchase of bad titles, but from the fact that they have committed themselves to the hands of parties having lands to sell, or which, if they sell, they are to be paid; frequently men from the North, who have bought to sell, or who sell for others.

CAPITAL INVESTED IN LAND.

We have read with interest a communication in the April issue of the *American Farmer*, from a correspondent who signs himself *A*.

He states and discusses a proposition which, in substance, is, that in the Middle Atlantic States it is better for a person, who intends to devote his attention and means to agriculture, to invest in the *cheap* and partly worn-out lands, than in those which are well improved and high priced. We agree fully in this opinion, and could cite instances in Virginia where such investments, under good management, have doubled in value for each five years' rotation for at least two or three periods.

Let us state the case arithmetically:

1.—*A* buys 200 acres at $50 per acre, - -	$10,000
Invests in live stock and implements, -	2,000
Retains for a working capital, - - -	3,000
Total investment, - - - - -	$15,000
He gets 6 per cent. net profit per year, -	$ 900
And for five years, - - - - -	4,500

In this time his land, being already well improved, there is nothing, perceptibly, added to its value.

2.—*B* buys 200 acres of originally good but impoverished land for $10 per acre, - -	$2,000
Invests in stock and implements, - -	2,000
Retains for a working capital, - - -	3,000
Total investment, - - - - -	$7,000

In the case of A, who has purchased improved land, we have credited him with 6 per cent. net profit, after payment of all expenses and the support of his family. This support is a fixed quantity and an important factor in the profits of every farm; but in the case of B, for the first term of five years (or a full rotation), his profit has been in his family support and the improvement of his land, which, it is reasonable to suppose, has doubled in value, and therefore he is credited with $2,000 as against A's $4,500.

For the second term of five years, let us suppose that A has added

10 per cent. to the value of his land, being a liberal allowance for land highly improved when he took it in hand; and for this term B will be entitled to the same credit for net profits beyond family support, and then the two cases will stand thus:

1.—A's land, $50 per acre,	$10,000
Increase in value,	1,000
Implements and stock,	2,000
Working capital,	3,000
	$16,000
Net profit, 6 per ct. per year, $960; 5 years,	$4,800
Gain in value land,	1,000
Net profit first five years,	4,500
Gain in ten years,	$10,300
2.—B's land, $10 per acre,	$2,000
Increase in value of land in five years,	2,000
Implements and stock,	2,000
Working capital,	3,000
	$9,000
Net profit, 6 per cent.,	$ 540
Net profit for five years,	2,700
Gain in value of land during first term of five years,	2,000
Gain in value second term,	2,000
Total gain in ten years,	$6,700

With good management B should again add $2,000 to the value of his land in another period of five years; but the process is carried far enough to show the relative gains in each case, according to the capital invested. A's capital of $16,000 has yielded him a profit of $10,300, or about 64 per cent. in ten years, and B's capital of $7,000 has given him a profit, in the same time, of $6,700, or about 100 per cent.

Such figures can be verified by many actual experiences, and they will show the difference between a man's paying for lands rich by nature, or made so by the skill of others, and the reaping of the profits of his own skill and labor. Land originally good, but worn down, of which there are many thousands of acres in Virginia, quickly yield to proper culture, and a large advance in value can be safely relied on.—*Monthly Journal, Virginia Agricultural Society, 1879.*

LARGE CROPS---SPECIAL STATEMENTS.

The Commissioner of Agriculture desired to obtain from reliable men accurate statements of the largest known product, per acre, of different crops in the counties of the State. This was designed to show those unacquainted with the soil in its best condition what our exhausted lands had been and what they could be made. He, therefore, made the inquiry of a number of gentlemen in every county. His last report has a crop table, showing that there had been in three counties a yield of fifty bushels of wheat per acre; in six counties, forty bushels; in one county, forty-five, and in four, twenty-five bushels; their estimates were for the crops, fields large or small. In Middle Virginia, five counties report from forty to forty-five bushels per acre; three from twenty-five to thirty-eight, and four over twenty bushels. In Piedmont, one over forty bushels; four over thirty bushels, and three over twenty bushels. In the Valley, five counties from forty to forty-three bushels, and nine counties from thirty to thirty-eight bushels. In the Blue Ridge, which has but three counties, one reports forty-seven bushels and another thirty-five. In Appalachia, seven counties report twenty to twenty-five bushels, and one county thirty-four bushels. In corn, Tide-Water reports for their highest known yield from 50 to 112 bushels; other corn sections, best yields from forty to eighty bushels.

SOUTHSIDE AND COTTON.

In Brunswick county, in 1880, John Lucy bought 160 acres of land for $250 cash. There was but an indifferent, uninhabited house on the place. In 1887 the following is a report of his crop, according to his statements: He worked three horses and four hired hands, that cost him $80 each per year and board. His crop was 13 bales of cotton; 6,500 pounds of tobacco, which netted 10 cents per pound; 600 bushels of corn; 207 bushels of wheat; 16,000 pounds of oats. He raised 10 lambs from 10 ewes. He kept 20 head of cattle; milking regularly 6 cows, and selling annually 3 beeves. He made

between 75 and 100 bushels of sweet potatoes and plenty of vegetables. He raised his own pork and sold some.

George Matthews, in 1887, on a worn-out farm of 200 or 300 acres, made from 12,000 hills of tobacco about 2½ acres a crop, that sold for $550, expending $25 for extra labor and $25 for commercial fertilizers. He made fully as much corn, wheat, oats, etc., as would support his farm and family.

William F. Purdy went on 700 acres of land, in 1870, working on shares for half. He worked three horses. He paid the owner an average of $700 per year for his share, and in 1880 bought the place for $3,300 cash. He had $1,200 left. He has prospered, making clear money ever since, and in 1888, a bad crop year, made 30 bales of cotton, 1,045 bushels of corn, and a fair crop of tobacco.

VALLEY FRUIT.

Botetourt is booming ahead in her leading industry of fruit and vegetable canning. In addition to the thirty-odd establishments run last year under the most unfavorable circumstances that can be imagined, preparations are being made to start others this year. Mr. C. M. Nalls, of Roanoke, will shortly begin the erection of a factory near Troutville, with the capacity to put up 10,000 cans daily. He expects to contract with farmers in the vicinity for 100 acres of tomatoes. Estimating 300 bushels to the acre at 25 cents per bushel, it will be seen that it is proposed to pay the farmers supplying this single cannery the sum of $6,000.—*Cor. Richmond Dispatch.*

Back Creek makes down from Bent Mountain into the rich limestone valley of the Roanoke River, in Roanoke county. The lands are freestone, steep and while cheap in price are fertile. It is a magnificent apple and peach section, producing the most magnificent specimens. Last fall a party from New York bought all the Albemarle pippins in the Valley, at $1 per bushel on the trees, and they were carried North. One man, with only a small farm, received about $3,000 for his crop.

NATIVE GRAPES.

The Woodson grape was first introduced by Tarlton Woodson. It originated upon the farm of Dr. Terry, called "Hard Times." In Kenrich's *New American Orchardist*, edition 1843, Dr. Norton, near Richmond, is quoted as recommending this grape for the manufacture of *sparkling wine*. Downing also speaks highly of the Woodson grape. It is, perhaps, too late in bearing for the latitudes north of Virginia, ripening just before frost. It is an abundant bearer. The original vines grafted on the Woodson farm have never failed to bear annually an enormous crop, and to-day the vines are as vigorous as ever, yearly producing their long, heavy bunches of red

L. of C.

grapes, without any pruning or cultivation. It is noted among wine-makers as the best grape for *dry wine.*

The Cunningham takes its name from Jacob Cunningham, of Prince Edward, upon whose farm it was found growing wild. This is, doubtless, the best grape, all points considered, that has been sent out from Prince Edward. Like the Woodson, it is here in its native soil and climate, and it does better here than any other known variety. All that is necessary is to give the vine room to run and trelis; trees, fences, arbors, or whatever bears up the vine, will have a load to carry. The vine is very hardy, fruit black, of medium size, bunches long, often ten to twelve inches, and weighing a quarter of a pound each, juice sweet and vinous. For eating, preserving, and making wine, the Cunningham has not been surpassed by any native or foreign varieties, ripens the last of September. Like the Woodson, it does not rot or mildew, and bears a heavy crop every year.

The Davis grape has been propagated from a wild vine found many years ago in the woods of Mrs. Martha Davis. The berries are about the size of the Catawba—round, very juicy and sweet; season, 1st October; fruit hangs late on the vine. As an evidence of the value of this grape, those who know it prefer it to many of the best of the noted varieties.—*Prince Edward Hand Book.*

GRAPES.

As the best means of showing what are the profits of grape culture in Albemarle, we give the following statement of Mr. A. L. Holladay as to the results upon his vineyard. He is one of the most accurate, conscientious and reliable gentlemen we know, and all who know him will accept his statement as accurate and correct. He says: "In 1878 I got my first crop from two and a half acres. The yield was $35.61 per acre. The yield this year was very poor, owing to the vines having been planted in the wheat, and having made a poor growth the first year for lack of work, besides a great many of the vines died, so that less than two-thirds were in bearing, the replanted ones not being old enough.

In 1879—	3	acres	yielded	$ 90	75	per acre.
1880—	4	"	"	113	00	" "
1881—	7½	"	"	23	27	" "
1882—	9½	"	"	56	26	" "
1883—	11	"	"	108	58	" "
1884—	17	"	"	116	28	" "
1885—	22½	"	"	101	56	" "
1886—	26	"	"	61	56	" "
1887—	28	"	"	51	74	" "
1888—	30	"	"	54	97	" "

"The small yield of 1881 was due to a severe hail storm, which nearly destroyed the crop, and left the wood so cut up that the next year's crop was also shortened.

"This is the yield from fruit sold altogether for wine, with the

exception of $50 worth of plants sold one year. In addition to the above yields, I made about $1,000 worth of plants, which I did not sell, but which enabled me to put out my vineyard at much less expense.

"My vineyard is on land that I put at about $25 per acre before I planted my vineyard. I estimate it has cost me about $75 per acre to plant an acre (I raising most of my plants) and to trellis it and bring it into bearing. Thus I put my outlay of capital at $100 per acre. The above yields make an average yield, per acre, of $72.54. Deduct from this $15 per acre, which I think is sufficient to cover expense of making a crop on an acre, including bone and ashes that I have used, but not counting manure, of which I have put on but little, there is thus left $57.54 average net profit per acre, or 57½ per cent. profit on the capital invested.

"A. L. Holladay,
"Eastham, Albemarle county, Va."

Here is an *average net profit of 57 1-2 per cent. on the capital invested*, for a period of ten years, during which one crop was nearly destroyed by a hail storm, and two other years, 1887 and 1888, were years of disaster from mildew and black rot. Now we have a specific and certain remedy for both mildew and black rot. It will be observed that Mr. Holladay's land (he estimates) was worth $25 per acre. This was because of its location and agricultural value. Land upon which equally good results can be obtained can be bought for much less money—an average, say, of $7 per acre. It will be noticed that Mr. Holladay raised and sold the wine grapes. Many are of the opinion there is more money in a vineyard which has in it table grapes also. These can be shipped to the Northern markets and sold at a good price, and what is left, after the market becomes glutted and it does not pay to ship, can be sold to the wine cellars for the manufacture of wine at about the same figure at which Mr. H. sold his whole crop.

Many car loads of table grapes are shipped from this county yearly. We have statements from other grape-growers, but have selected this one because it is made off in a more accurate form, Mr. H. having kept an accurate account with his vineyard, which is a thing but few others have done.

We interviewed many of our vine-growers several years ago, and their statements then showed a profit of from $60 to $90 per acre. Several have asked us not to give their names in connection with their statements, but those desiring information can have reference to them by applying to us.—*Z. T. Blakey, in Fruit and Grape Grower.*

FIVE CROPS IN ONE YEAR.

This morning—being Monday—we drove out and found Mr. Holmes at home. We cornered him up in the very finest kale patch in the whole South, and held him there until he got hungry and until he gave in and gave us the required information. He secured five crops as follows :

Sowed spinach in September; cut and sold the same in January following; plowed the land and put in radish in January, which crop was cleaned up April 4th. The land was at once plowed and sowed to a second crop of radish, thus making the third crop. About 10th to 12th April planted canteloupe seed at proper intervals among the growing radish, and for fear of frost covered the hills with glass; took off both these crops about 10th August and sowed to millet, which came off inside the twelve months, making *five crops in one year from the same piece of land!*

As to how these five crops paid Mr. H. could not tell, as he keeps account with his whole farm, but not with any separate field thereof. But one thing he did mention, however, and that was that from his 30-acre farm he sold $15,000 worth last year. This, of course, was his gross sales. What the profits are HE only knows, and he won't tell.—*Cornucopia.*

FIGS.

[For the Journal of Agriculture.]

In addition to the "three ways by which the average farmer may escape absolute bankruptcy" (vide Vol. I, page 74), I would add another: "He must raise less corn and tobacco and more fruit."

Good fruit always commands a ready market at good prices. Let me tell a plain story.

A young man who had $3,000, soon after getting married, bought 1,000 Bartlett pear trees. His friends laughed at his folly; but in a very few years he began to receive a thousand dollars a year for his fruit, and then they changed their minds.

It may be the best thing for farmers, who are distant from railroads and other facilities of commerce, to grow corn, raise hogs, etc.; but for those who have ready access to the markets of the world, first-class fruit is the profitable crop to grow.

Allow me to say, in this connection, that I have just laid the foundation of a new industry in the Middle and Northern States, by showing that that delicious fruit, the fig, can be grown as successfully as at the South.

Not only can every family have a few trees for home comfort, but in the fine soil and climate of Virginia tons of the fruit sold would add materially to the prosperity of the people.

I am thoroughly in earnest in this matter, and will send full instructions how to grow fig trees, how to cure the fruit, etc., to any applicant.

G. F. NEEDHAM.

Washington, D. C., April, 1879.

Our correspondent has sent us an interesting paper on the cultivation of the fig in the Northern and Middle States. In some parts of Virginia this excellent fruit will grow without protection in winter; in other portions Mr. Needham's plan of treatment and protection might be successfully used.—EDS.

BIG PRODUCT OF VIRGINIA WHEAT FIELDS.

We have said we can show as large products per acre as any State, and that we would prove it. We furnish just here some of the evidence:

LARGE YIELDS OF WHEAT.

The Staunton *Vindicator* mentions that Mr. B. B. Smith, of South River, has just harvested from an 84-acre field 2,016 bushels of wheat—about 24 bushels to the acre; that Mr. James Patrick, on one of his fields, had a yield of 27 bushels to the acre; and that Mr. Ireneus Coiner, on one of his fields, had a yield of 38 bushels to the acre. All of which is magnificent, but surpassed by Albemarle. W. J. Ficklin has made a record of 41 bushels to the acre.—*Charlottesville Jeffersonian.*

Mr. Edward A. Burks thrashed last week 770 bushels of wheat from 31 bushels sowed. Raising wheat pays at such figures.

Mr. Zack Drummond has thrashed 80 bushels from two bushels sowed. Who can beat that?

Mr. Samuel Higginbotham, with a yield of 27 bushels of wheat to one bushel sowed, in a crop of three hundred and odd bushels, bears off the palm in the Forks of Buffalo country.—*Whitehead's Democrat.*

Here are reported from three counties—one the magnificent limestone county of Augusta—first, 24 bushels to the acre; second, 27 bushels; and third, 38 bushels to the acre. Albemarle and Amherst, Piedmont counties, with red-clay granitoid lands, come to the front. Albemarle 41 bushels per acre; Amherst, one 25 bushels, 10 pounds to one sowed, the other 40 bushels to one sowed. If they sowed 1½ bushels to the acre, which is probable, the yield per acre for the first would be 37¾ bushels per acre and the other 60 bushels. There have been many years in which in the past the yield was as great as those now reported. We recall a crop in Nelson county, on South Rockfish, of 40 bushels; one in Bedford, of 42; one in Campbell, of 35 bushels per acre.

Col. Knight made in Nottoway county 675 bushels from 7½ bushels broadcast, following tobacco, on good land, or 45 bushels to the acre. This was in 1842.—*Southern Planter.*

TRUCKING.

From a plot of ground containing one and one-fourth acres of land I have sold six thousand two hundred and one dollars worth of produce during the five years beginning with 1883 and ending with 1887—that it is to say, I have received the above amount from Northern markets for produce raised on this one and one-fourth acres of land after freight and commission were deducted.

1883. Threw up this plat in 40-inch beds, three rows spinach on

each bed ten inches apart, and put one row of cabbage in open furrow on side of the bed. I cut 364 barrels spinach and 232 barrels cabbage, which returned me from Northern markets $1,100.

1884. Spinach sown flat in 10-inch rows; made 380 barrels; then put in cantelopes (melons), which turned off 100 barrels. The spinach and melons returned me $1,000.

1885. I raised on this same plat 385 barrels spinach and 100 boxes beans, which brought me $1,200.

1886. Planted in lettuce 10 to 14 inches, cut 450 barrels, which brought me $1,000.

1887. Planted spinach again, which brought me $1,336. Then set out egg plant, which crop brought me from Northern markets $565.

Thus my sales from this one and one-fourth acres of land, in five years time, after deducting freight and commission, has brought me $6,201—my best year being 1887, when I received the sum of $1,901. My books show sales for each year, giving day and date of each shipment, and also giving the price received.

I make this statement by request of the Board of Supervisors of Norfolk county. B. F. Wilson.

VEGETABLES.

Mr. W. L. Ballard, of Norfolk county, sends to the Richmond Exposition a sample of fine corn planted July 12th, after potatoes had been dug from the same land. The corn is one of the yellow varieties and is a fine crop. The potato crop preceding it was planted February 28th, and the corn had no manure or fertilizer whatever. He also sends samples of Scotch kale as a third crop. The first crop was cabbage, set out March 15, cut and marketed early in June; second crop, crab grass, cut last of August; third crop, Scotch kale. He further sends sample cabbage plants as a fifth crop.

First crop was radishes, sowed January 25th; second crop, English peas, sowed February 20th; third crop, cucumbers, planted April 10th; fourth crop, crab grass; fifth crop, cabbage, as per sample.

In this last case three and four-sevenths acres of land was used, from which was grown, matured and sold three crops in one year, viz.: radish, peas and cucumbers.

The fourth crop—grass, or native hay—was turned under; and the fifth crop, cabbage, is now out on the land. His returns for the three crops sold were as follows from the three and four-sevenths acres:

Cucumbers,	$1,361 78
Radish,	150 15
Peas,	187 15
Total,	$1,699 08

With one crop turned under (grass), and one crop (cabbage) yet to

hear from. At this rate Peter Henderson was correct when he said, "Ten acres is enough."

The above statement is made by request of the Board of Supervisors of Norfolk county.—*Cornucopia.*

SOME MORE POTATOES.

Last year I had 12 acres in potatoes. I dug 80 barrels to the acre, which netted me $1 per barrel. I then put the same tract of land (12 acres) into kale. The second crop of potatoes came up in the kale (from seed left in the ground when first crop was dug). I let the kale and potatoes both grow together. In the Fall I dug up 100 barrels of these potatoes and sold the kale from the 12 acres for $1,500, making net returns something over $2,400 from the 12 acres of land in one year.

This statement is made by request of the Board of Supervisors of Norfolk county. GEO. A. WILSON.

CORN.

Mr. S. B. Carney, of Norfolk county, sent up a sample of corn for exhibition at the Richmond Exposition that is worthy of notice. It is corn grown as a *third* crop on the same land inside of twelve months.

The first crop was kale, sowed in September, 1887: sold in February and March, 1888; yield, 200 barrels per acre; sold for $1.25 per barrel.

The second crop was Irish potatoes, planted in March and dug in June; 75 barrels per acre; sold at $3 per barrel.

The third crop was the corn above noted, planted June 20th, and will yield 25 to 30 bushels of shelled corn per acre, worth 60 to 70 cents per bushel. This shows the productiveness of Norfolk county's soil when well handled.

FRUIT.

Of the fruit-growing and canning industry in Botetourt county a correspondent of the Lynchburg *Virginian* gives the following account:

There are 120,000 growing peach trees, of which one-half are bearing. There are set out, and to be set out this spring, 50,000 young trees. One agent, who has had his headquarters at Cloverdale, claims that he sold 25,000. Not all fruit trees are sold to the packing men. The general interest in raising fruit has been stimulated by the success of the packing business and the market which it affords. Almost every one that owns land seems to be anxious to raise more fruit. The vicinity of Roanoke City creates also a demand for fruit, in its season, of all kinds.

HAY.

Among the many good things sent in for the Richmond Exposition was a sample bale of Norfolk hay grown by Mr. A. H. Lindsey on his farm near Deep Creek. Mr. Lindsey raises annually about 300 tons of good timothy hay, and is constantly enlarging his area in hay. Besides this he raised this year nearly 15,000 barrels of potatoes, and has a fine crop of corn, samples of which he also sent down to exhibit. He has a fine body of land and is putting it to good use. He does but little trucking, but confines himself mostly to the staple crops—corn, hay, potatoes, etc., although he now and then raises a fine crop of kale—a crop that he succeeds in growing to perfection at a much less expense than the regular trucker, as his land is rich and strong and requires but little commercial fertilizer to make fine crops. One can most always see fine crops growing on the farm of Mr. A. H. Lindsey.

SHEEP HUSBANDRY.

The *Country Gentleman* says: "Are our wheat soils running out? What may we look for fifty years hence? Sheep and turnip husbandry, carried on as near to the system pursued in England and Scotland as the climate in the United States will permit, would rescue the soil from the exhaustion existing; but even this escape is rejected, and the dogs are allowed to be a bar to any recovery of fertility by such means, and Southern men in the cotton States persist in growing cotton without profit, and buying fertilizers, when the Commissioner of Agriculture in Georgia collected evidence that in 1873, while cotton paid nothing, wool gave a clear gain of 63 per cent. on the capital employed, after an average loss of 15 per cent. by the killing of sheep by dogs. The Southern States could all grow crops which would fatten sheep by feeding them on the land in the open air without shelter; and whenever a good fair trial of English sheep husbandry is made down South, some cute mind will invent means of shelter which will give the North a chance to follow suit."

SPINACH.

In 1888, B. W. Holmes sent to Boston by boat from Norfolk one day one wagon load of spinach, making sixty-five barrels, which he sold at $5 per barrel, making one load $325.00. He sold some at other times as high as $8 per barrel. About 150 barrels can be raised per acre on the best trucking lands in Norfolk County.

SOCIAL STATISTICS.

EDUCATIONAL.

Virginia has an admirable Public School System which is working well, doing good service, giving satisfaction to both white and colored people. For the year 1887, $1,535,289.11 were applied to public schools, which was an increase over preceding years.

The following summaries exhibit substantially the condition of the public free school system of Virginia for the year ending July 31st, 1888:

Total population, according to census of 1880	White,	880,858	
	Colored,	631,616	
Total			1,512,474

SCHOOL POPULATION.

(Between Five and Twenty-one Years of Age.)

White		345,024
Colored		265,347
Total		610,371

SCHOOLS.

Number opened:

White	5,154	
Colored	2,115	
		7,269

NUMBER OF GRADED SCHOOLS.

(included in number reported above.)

White	380	
Colored	127	
		507

PUPILS.

Number enrolled:

White	211,449	
Colored	118,831	
		330,280

Number in average daily attendance:		
White	124,974	
Colored	64,422	
		189,416
Number studying the higher branches:		
White	10,236	
Colored	1,721	
		11,957

TEACHERS.

Number of	
White	5,373
Colored	1,909
Grand total	7,282
Average monthly salaries:	
Males	$31 00
Females	26 40
Number of school houses	6,205

White and colored children are taught in separate schools, when they can be gotten, where competent colored teachers have charge of colored schools, and there is no bad feeling between the races, harmony everywhere prevails. A large number of Peabody Normal Institutes are yearly conducted.

The State has a large Normal and Collegiate Institute, for colored people at Petersburg, and a white Female Normal Institute at Farmville, and it aids the University of Virginia at Charlottesville, the Virginia Military Institute at Lexington, and the Virginia Agricultural and Mechanical College at Blacksburg, at which is the United State Experiment Station. The Miller Manual Labor School, for the education of the children of Albemarle county, is a splendid and successful institution. Washington and Lee University at Lexington, Randolph-Macon College at Ashland, Hampden-Sidney College near Farmville, Emory and Henry College in Washington county, Roanoke College at Salem, Richmond College at Richmond, Hampton Normal College for colored, at Hampton, William and Mary College at Williamsburg, and many other lesser institutes for boys and girls, give to the State the amplest opportunity for the education of its children, white and colored, in such a manner and on such terms as none need be without a good education.

ASYLUMS.

Virginia offers for the insane three asylums for white and one for colored patients, all large, well officered and successful. One large and successful asylum for the deaf and dumb and blind, and

a large number of Retreats, Hospitals, Infirmaries, &c., for the afflicted, where all are well cared for; and these and many other charitable institutions, in addition to the provision made by law for the care and support of the poor, which in most counties, and nearly all cities, is an honor to the humane and kindly character of the officials and people.

RELIGIOUS.

Every denomination of Christians, together with a considerable population of Hebrews, is represented in Virginia by congregations with ministers and houses of worship, and under the admirable law of religious liberty, drafted by Thos. Jefferson, and followed out and re-enacted by every succeeding legislature, she has had religious peace and prosperity among white and colored people and congregations in all her borders. The land is literally dotted with churches and meeting houses, and the Sabbath in Virginia retains its old time prominence, and its old time habits and observance. The whole social system of Virginia, will compare favorable with that of any State in the Union.

IMMIGRATION.

COMMONWEALTH OF VIRGINIA,
DEPARTMENT OF AGRICULTURE AND BUREAU OF IMMIGRATION,
RICHMOND, VA., November 23d, 1888.

At the annual meeting of the State Board of Agriculture, on the 31st October, 1888, the Committee on Immigration made the following report:

REPORT.

Your committee, to whom was recommitted the report on Immigration and Labor, and the resolutions accompanying the same, beg leave to make the following report:

That they do recommend the employment of an immigration agent, to be nominated by your President, and approved by the Board, at a salary not to exceed fifteen hundred dollars per annum and necessary expenses.

His term of service shall be at the pleasure of the Board. His duties shall be the dissemination of such information concerning the advantages and resources of our State as shall be approved of by this Board and the Commissioner of Agriculture. To visit such sections of our country as offer desirable elements of population with a view to securing their immigration to our State. And to perform such other duties as may be required of him by the Board and the Commissioner of Agriculture.

It shall be the duty of the Commissioner of Agriculture to secure, by public meetings or otherwise, an expression from the several counties and parts of counties as to the kind of immigrants most desired by them, and such as would be most likely to succeed in such localities, and when it becomes necessary, in the promotion of this object, to visit the various sections of Virginia as far as practicable, that his expenses be paid, and that he also appeal, through the public press and otherwise, to the various sections and communities of this State to communicate with him and furnish him their views and wishes on the subject of immigration, and that each county and locality shall proceed at once to organize themselves in such manner as shall enable them to communicate their needs and requirements, and any other information they may wish to furnish

the Commissioner of Agriculture for the promotion of the interests of their respective counties and localities.

In furtherance of these great ends, we would respectfully suggest that it might be proper, in order to secure prompt action, that the supervisors (as they are an organized body) should, with great propriety and in the interest of their people, take a leading part in securing the objects indicated above, and also to make an appropriation sufficient for and necessary to defray the expenses incurred in securing this action; and without intending in any way to interfere with the rights and duties of the supervisors, we would respectfully urge the supervisors from the several counties to take hold of this subject in earnest, and to act at once. We would further suggest that they appoint some one who would prepare, and forward with as little delay as possible, to the Commissioner of Agriculture, all the information in respect to their county they can, as to the kind of crops grown, the quality and prices of land, and the quantity and character of that which is for sale, number of churches and schools, local taxes, facilities for transportation, population, and square miles, and any other information that may be deemed necessary to persons seeking new homes. This should be done in as compact a form as possible to impart the information.

It is with some hesitation that your committee recommend this expenditure of this money, and nothing but the great importance of the subject has induced them to do it, with the hope that the next Legislature will make such additional appropriation as will meet the requirements of the Board in making effective and useful their work, and they can but express a regret that the law does not authorize them to use the $6,440 which they have turned in the treasury within the past ten months.

W. T. Sutherlin, *Chairman.*
S. Wellford Corbin,
Henry L. Lyman.

The Board unanimously adopted the report, and now, for the purpose of inaugurating this movement, the following circular is issued for the information and instruction of all whom it may concern. Hon. Charles Grattan, judge of the Hustings Court of the city of Staunton, has been secured as the agent of this department, to visit the Northern section of our Union and welcome and invite all worthy people who are looking to a change of residence, to settle in and become citizens of Virginia.

Virginia needs population—it needs more good men, women and children. It has thousands of acres of broad, fertile, unoccupied lands awaiting the tiller's toil; it has thousands of acres of timber awaiting the woodman's axe, and thousands of veins of most valuable ores and coal, only awaiting capital. It has the finest climate on the Continent; is absolutely free from the extremes of heat and cold, from blizzard or cyclone, severe drought or great floods, from pestilence or famine. From many sorrowful causes, not from necessity, many of its people have gone away in the past, and now the great duty of the hour is to retain all our people and secure an addition of good, moral, industrious citizens from other States and

countries to purchase and settle on the uncultivated lands of the State—to relieve the owners of the burden of uncultivated, unproductive fields and forests; give them capital to improve the lands retained, and increase their stock and add to the body of intelligent, educated, property-holding, tax-paying citizens of the State. To aid in this great work, Judge Grattan goes among our brethren of the overcrowded sections of the North and Northwest, to make for us a full, fair and candid representation of our State, its people, its agricultural and mineral resources, its transportation facilities, its social, educational and religious advantages, etc. Judge Grattan has the entire confidence of our people and of the Board of Agriculture. His character for all that constitutes the intelligent, educated, well-informed, upright Virginia gentleman, is well known in the State, and endorsed by this Board of Agriculture, and it bespeaks for him in our sister States and among our agricultural brethren such a reception and hearing as should be accorded to such a fraternal messenger, coming with a welcome to all who will visit the Old Dominion. Our agent, Judge Grattan, will be able to explain more fully than could be put in print, the specific advantages of the different sections of this great State, and by statistics and direct evidence to satisfy all who are seeking desirable homes. All the lands of Virginia, from the splendid blue-grass sods in the Valley of the Shenandoah and Southwest, and her magnificent orchards and yellow tobacco fields of Piedmont, to her cotton and peanut fields on her Southern border, round by her oyster bays and fishing shores and up her great rivers, are cheap, low-priced, compared with the lands of any other State in the Union. Her rich mines of all valuable ores and minerals are cheaper than in any other State. Her magnificent woods and timber can be bought for less money than elsewhere. Opportunities for the investment of capital in all manufacturing industries are abundant, and the advantages for their prosecution are superior to most States. The largest farms, valuable ranches for the raising of horses, cattle and sheep, can be secured at low rates, while thousands of acres, most valuable for the production of early vegetables, trucking, fruit, berries, melons, etc., are for sale. With hundreds of miles of oyster and fishing shores and navigable rivers and creeks, it is difficult to find on the globe a better, more pleasant, or more profitable place for the habitation of man.

In some of the counties of the State there is an opening for good, steady, reliable white farm labor. This is to some extent true in most counties where tobacco, cotton and trucks are the main crops. It is true that wages are not high, but living is cheap, and there is an opening for such laborers to purchase land and secure homes for a small part of their wages. This will be apparent when it is known that arable land producing tobacco, cotton, grain, clover and vegetables, with abundance of timber for building and fencing, has been sold for from $1 to $3 per acre, and when a reputable, steady, industrious man could buy from the man for whom he worked, and could frequently work out the purchase money, no country in the world offers such opportunities for industrious poor men as many

sections of Virginia. In Tide-water Virginia the rivers are filled with the best fish and oysters, and covered with fowl, and districts are covered with wood finding ready sale on the bank. This is the Paradise for a poor man—even a lazy man—for he can live well with less labor than anywhere else in the United States. There is a great opening in Virginia for mechanics whose trades are connected with agriculture. Carpenters, brick and stone masons, shoe makers, blacksmiths, tinners, etc., who can buy a home (small farm) near a village or in a thickly settled section, can do well by joining farming with work in the shop, as their trade will always secure labor on their farm with the advantage to them. The opening for the profitable pursuits of the smaller industries in conjunction with a farm-home is greater in Virginia than almost any other State.

With these physical advantages we have low taxes, good local government, quiet population, good schools and numerous churches; and to all who come to take part with us in building up the Old Dominion we extend a cordial welcome, and guarantee of a kind reception, and this department will feel itself bound to give to all such settlers all the assistance possible in reaching and securing homes among our people.

THOMAS WHITEHEAD,
Com'r of Agriculture.

INSTRUCTIONS TO AGENTS.

COMMONWEALTH OF VIRGINIA,
DEPARTMENT OF AGRICULTURE,
RICHMOND, VA., April 1, 1889.

Dear Sir—In your dealings and transactions with immigrants seeking homes in Virginia and desiring to buy lands in your county, you are urged to follow strictly the following injunctions:

First. Be plain, frank and candid in all the representations you make of soil, climate, &c.

Second. Refuse to register lands at exorbitant prices, and always tell the buyer what is the fair market value of the place.

Third. Caution buyers not to rely on paying for farms by the crops made, and advise no man to buy unless he has cash, or means to pay for the place outside the crops on it, unless he has capital to work a large force and has rich land.

Fourth. Make accurate statements in full about the health, and require seller to secure title, and explain it.

Great particularity and caution are necessary in this matter, as there are a number of cases, reported North and West, of deception practiced on immigrants by real estate agents, which have done the State much damage; and it is but true that many have gone back with a bad account, and many have been sold land at exorbitant prices, and some have been sold out for balance of purchase money.

Try and secure the confidence of every immigrant we send you,

and endeavor to secure him as good a home as his money will buy. *We* must repair the damage already done in this matter.

Respectfully,

THOMAS WHITEHEAD,
Commissioner of Agriculture.

LIST OF COUNTY AGENTS OF THE DEPARTMENT.

COUNTIES.	AGENTS.	POST-OFFICES.
Accomac	Spencer D. Fetcher	Jenkin's Bridge.
Albemarle	Z. J. Blakey	Charlottesville.
Alexandria	Jas. E. Clements	Arlington.
Alleghany	J. J. Hobbs	Covington.
Amelia	P. J. Berkeley	Amelia Courthouse.
Amherst	Edgar Whitehead	Amherst Courthouse.
Appomattox	R. B. Poore	Appomattox C. H.
Augusta	Rev. Samuel Driver	New Hope.
Bath	John W. Stevenson	Warm Springs.
Bedford	R. Kenna Campbell	Liberty.
Bland	Martin Williams	Bland Courthouse.
Botetourt	A. A. Woodson	Fincastle.
Brunswick	Benj. Lewis	Lawrenceville.
Buchanan	John M. Ratliffe	Grundy.
Buckingham	A. J. Bondurant	Mt. Vinco.
Campbell	Samuel H. Miller	Rustburg.
Caroline	W. J. Anderson	Bowling Green.
Carroll	D. W. Bolen	Hillsville.
Charlotte	J. W. Morton	Keysville.
Charles City	Thos. Wilcox	Wilcox Wharf.
Chesterfield	John S. Taylor	Chesterfield C. H.
Clarke	Daniel C. Snyder	Berryville.
Craig	Chas. F. Hawkins	Newcastle.
Culpeper	A. G. Hudgins	Culpeper.
Cumberland	W. R. England	Cartersville.
Dickinson	R. L. Counts	Ervinton.
Dinwiddie	J. C. Duane	Goodwynsville.
Elizabeth City	E. A. Semple	Hampton.
Essex	Aubrey H. Jones	Tappahannock.
Fairfax	Jas. B. Machen	Centreville.
Fauquier	R. H. Downman	Warrenton.
Floyd	Z. T. Dobyns	Floyd Courthouse.
Fluvanna	J. O. Shepherd	Palmyra.
Franklin	P. D. Divers	Rocky Mount.
Frederick	John M. Long	Stephens City.
Grayson	S. M. Dickey	Independence.
Giles	D. W. Mason	Pearisburg.
Gloucester	L. C. Catlett	Gloucester Courthouse
Goochland	Wm. Miller	Goochland Courthouse
Greene	Z. P. Page	Stanardsville.

LIST OF COUNTY AGENTS—CONTINUED.

Greenesville	L. D. Yarrell	Emporia.
Halifax	S. C. Perrow	Halifax Courthouse.
Hanover	J. A. Brown	Hanover Courthouse.
Henrico	John C. Fowler	Richmond.
Henry	H. G. Peters	Martinsville.
Highland	J. B Bradshaw	McDowell.
Isle of Wight	W. S. Holland	Windsor.
James City	W. H. E. Morecock	Williamsburg.
King and Queen	Wm. F. Bagby	Stevensville.
King George	G. W. Grigsby	Comorn.
King William	J. W. Taylor	Aylett's.
Lancaster	R. M. Saunders	Lancaster Courthouse.
Lee	J. P. Graham	Jonesville.
Loudoun	B. W. Haxall	Middleburg.
Louisa	J. W. Porter	Louisa Courthouse.
Lunenburg	Geo. C. Orgain	Lunenburg Courthouse
Madison	F. H. Hill	Madison Courthouse.
Mathews	G. F. Garnett	Mathews Courthouse.
Montgomery	N. R. Stanger	Blacksburg.
Mecklenburg	Henry Van Devanter	Chase City.
Middlesex	R. T. Bland	Saluda.
Nansemond	S. T. Ellis	Suffolk.
Nelson	J. R. Peebles	Lovingston.
New Kent	Wm. E. Cottrell	Providence Forge.
Norfolk	S. B. Carney	Box 56, Norfolk.
Northampton	W. B. Wilson	Bay View.
Northumberland	J. C. Betts	Heathsville.
Nottoway	H. A. Wilbourne	Crewe.
Orange	P. J. Fulcher	Gordonsville.
Page	Mann Spitler	Luray.
Patrick	P. Bouldin	Stuart.
Pittsylvania	W. J. Dance	Danville.
Pulaski	L. S. Calfee	Pulaski City.
Powhatan	John B. Cocke	Rock Castle.
Princess Anne	Wm. G. Whitehurst	Princess Anne C. H.
Prince George	Mann Page	Brandon.
Prince Edward	A. R. Venable	Farmville.
Prince William	Jos. B. Reed	Brentsville.
Rappahannock	H. G. Moffett	Washington.
Richmond	R. C. Welford	Warsaw.
Russell	J. A. Smith	Belfast Mills.
Rockingham	F. A. Daingerfield	Harrisonburg.
Rockbridge	John T. McKee	Green Forest.
Roanoke	Wm. McCurdy	Salem.
Scott	J. B. Richmond	Estillville.
Shenandoah	I. H. Bird	Woodstock.
Smyth	Geo. W. Richardson	Marion.
Southampton	John J. Dyer	Handsom's Depot.
Spotsylvania	John R. Alrich	Alrich's Crossing.

LIST OF COUNTY AGENTS—CONTINUED.

Stafford	Hugh Adie	Garrisonville.
Surry	A. C. Garrett	Surry Courthouse.
Sussex	J. D. Owen	Sussex Courthouse.
Tazewell	R. B. Henry	Tazewell Courthouse.
Warren	Smith Turner	Front Royal.
Warwick	Dr. John Crafford	Lee Hall.
Washington	F. S. Findley	Abingdon.
Westmoreland	Thos. Brown	Hague.
Wise	C. F. Flannery	Wise Courthouse.
Wythe	R. N. Pendleton	Wytheville.
York	C. Wade	Yorktown.

EXPLANATION.

As the Editor of this Book, under the order of the State Board of Agriculture, it is proper to state, that it is more a compilation of the writings of others heretofore published in pamphlets and newspapers, than the original work of the editor. The Hand-book of Virginia heretofore published under law, by the Commissioners of Agriculture, reached the 5th edition, which was ably edited by my predecessor, Col. Randolph Harrison, and which has occupied an important position in attracting attention to Virginia. That edition was exhausted last winter in the extraordinary demand for literature descriptive of Virginia, and it was deemed wise by the Board to have prepared by the Commissioner, a book more particularly suited to those seeking homes in the State. In preparing this work, I have had the valuable aid of the railroads of the State, and public spirited citizens of many counties. Especially am I indebted to the Norfolk and Western road for two publications, setting forth the agricultural, mineral and forest wealth along its line, much of which was published by that able ally and friend of the South in its development, "THE MANUFACTURERS RECORD OF BALTIMORE." Also to the Shenandoah Valley Railroad, for the use of a handsome illustrated pamphlet with very accurate and elegant descriptions of the great natural curiosities of the State—the Luray Caverns, Natural Bridge, and Crab Tree Cataract; also to the PORTSMOUTH SKETCH BOOK for a history and description of the Dismal Swamp. I am also indebted to Col. Harrison's Hand-book for large extracts in regard to the geological and geographical descriptions of the State, and many special statements in regard to minerals and timber, using again, as I have, the valuable article of Gen. J. D. Imboden, on the mineral resources of Virginia.

Trusting that this work carried out in haste and amid constant distracting business, may be the means of inducing good citizens of other States to make their homes with us, and invest their capital in the development of our rich mines and great forests, it is submitted to the public to show Virginia as she really is.

THOMAS WHITEHEAD,
Commissioner of Agriculture.

IMMIGRANTS

would do well to consult the

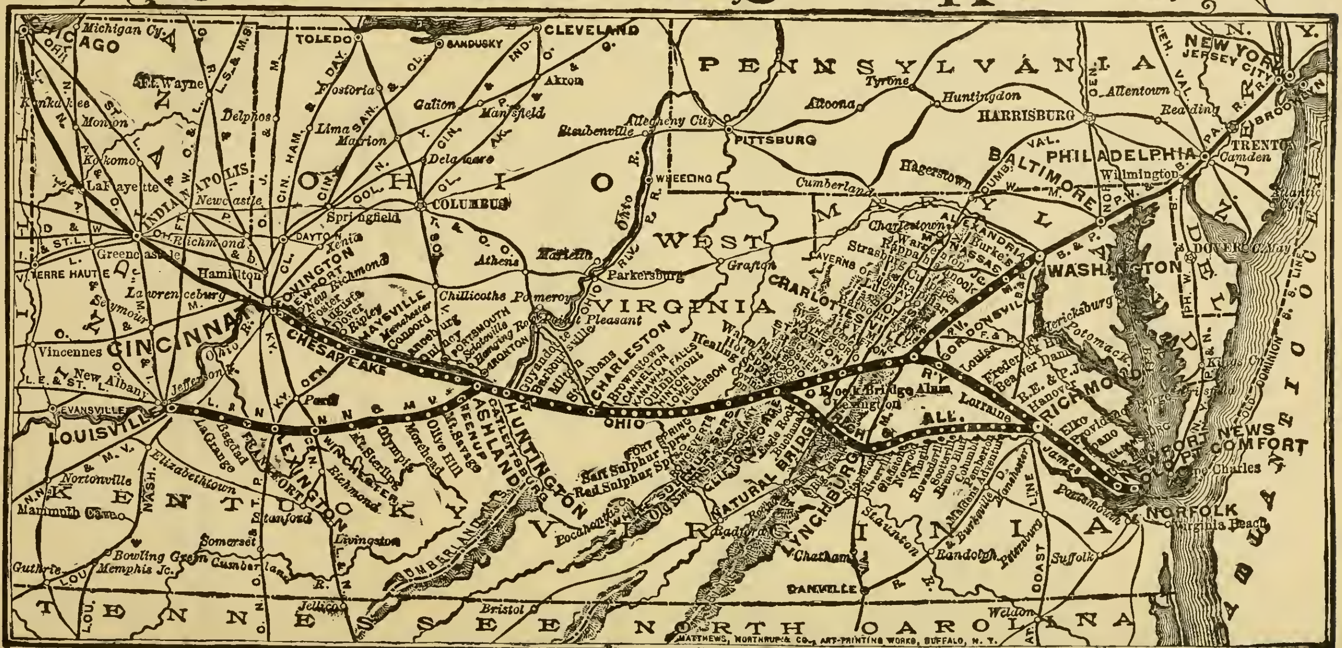
FOLLOWING MAPS AND RAILROAD

DIRECTIONS,

also to consult the

Agents of the Different Lines.

CHESAPEAKE & OHIO ROUTE



Chesapeake & Ohio Railway Co·

From Old Point Comfort and Newport News, Va., to Cincinnati, Ohio,

WITH CLOSE CONNECTIONS WEST AND NORTHWEST.

It connects with or crosses the following Roads through Virginia:

At Richmond, with Richmond and Alleghany. Richmond and Petersburg, Richmond, Fredericksburg and Potomac, Richmond and Danville, and York River.

At Hanover Junction crosses Richmond, Fredericksburg and Potomac Railroad.

At Gordonsville, with Orange Branch of Virginia Midland.

At Charlottesville, crosses Virginia Midland Railroad.

At Waynesboro, crosses Shenandoah Valley Railroad.

At Staunton, crosses Baltimore and Ohio Railroad.

At Clifton Forge, connects with Richmond and Alleghany Railroad.

FOR INFORMATION OF RATES, ROUTE, &c., TO VIRGINIA,

Apply to any of the following:

C. R. Bishop, East. Pass. Agt., C. & O. Ry. Co., 362 Broadway, New York City.

C. R. Bishop, East. Pass. Agt., C. & O. Ry. Co., 513 Pennsylvania Avenue, Washington City.

D. E. Holmes, P. & T. Agt., C. & O. Ry. Co. cor. Fifth and Walnut Streets, Cincinnati, Ohio.

W. H. Greegor, Traveling Pass. Agent, C. & O. Ry. Co., cor. Fifth and Walnut Streets, Cincinnati, Ohio.

E. B. Pope, Traveling Pass. Agt., C. & O. Ry. Co., 101 N. Fourth Street, St. Louis, Mo.

Ticket Agent C. I. St. L. & C. Ry., 121 Randolph St., Chicago.
" Monon Route, 71 Clark Street, Chicago.
" C. H. & D. R. R., Detroit, Mich.
" C. H. & D. R. R., Toledo, Ohio.

J. J. Archer, Scioto Valley Ry., Columbus, Ohio.

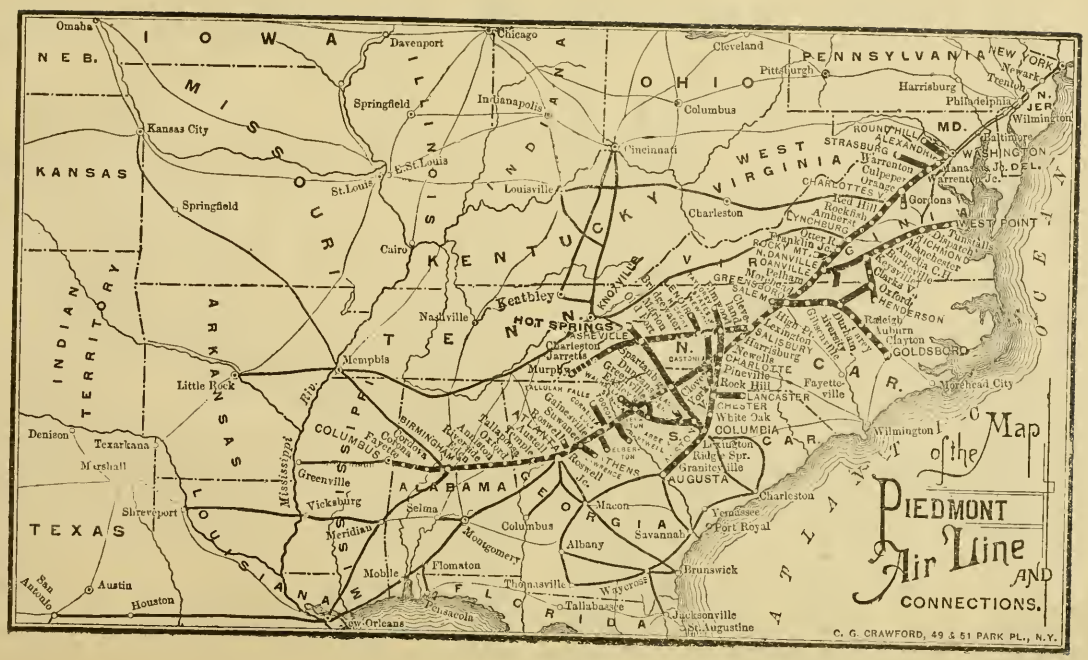
C. Buetenback, Ticket Agent, N. N. & M. V. Co., 253 Fourth Street, Louisville, Ky.

Or to

H. W. FULLER,

General Pass. Agt., Cincinnati, Ohio.

For routes and connections in Virginia, apply to JOHN D. POTTS, Division Pass. Agent, Richmond.


Map
of the
PIEDMONT
Air Line
AND
CONNECTIONS.
C. G. CRAWFORD, 49 & 51 PARK PL., N.Y.
IOWA
NEB.
KANSAS
INDIAN TERRITORY
TEXAS
ARKANSAS
LOUISIANA
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
TENNESSEE
KENTUCKY
OHIO
INDIANA
ILLINOIS
MISSOURI
WEST VIRGINIA
PENNSYLVANIA
NEW YORK
MD.
VIRGINIA
N. CAR.
S. CAR.
Omaha
Davenport
Chicago
Cleveland
Pittsburgh
Harrisburg
Philadelphia
Wilmington
Baltimore
WASHINGTON
Kansas City
Springfield
Indianapolis
Columbus
Cincinnati
St. Louis
Louisville
Charleston
Cairo
Nashville
Memphis
Little Rock
Denison
Texarkana
Marshall
Shreveport
Greenville
Vicksburg
Meridian
Selma
Montgomery
Mobile
Pensacola
New Orleans
Columbus
Macon
Albany
Savannah
Fort Royal
Charleston
Florence
Wilmington
Morehead City
Goldsboro
Raleigh
Auburn
Clayton
Henderson
Oxford
Durham
Greensboro
Salisbury
Charlotte
Rock Hill
Chester
Lancaster
White Oak
Columbia
Granitville
Aiken
Augusta
Graniteville
Yemassee
Brunswick
Jacksonville
St. Augustine
Tallahassee
Thomasville
Waycross
Flomaton
Austin
Houston
San Antonio
Asheville
Hot Springs
Knoxville
Bristol
Lynchburg
Danville
Richmond
Petersburg
Fredericksburg
Alexandria
Manassas Jc.
Warrenton Jc.
Gordonsville
West Point
Newark
Trenton
N. York
Round Hill
Strasburg
Culpeper
Orange
Charlottesville
Rockfish
Amherst
Franklin
Rocky Mount
Roanoke
Greensboro
Salem
Mt. Airy
Pinnacle
Fayetteville
Wilmington
Florence
Darlington
Sumter
Kingsville
Columbia
Spartanburg
Greenville
Anderson
Atlanta
Athens
Gainesville
Toccoa
Walhalla
Seneca
Calhoun Falls
Abbeville
Belton
Greenwood
Birmingham
Talladega
Rome
Cedartown
Chattanooga
Knoxville
Bristol
Lynchburg
Danville
Richmond
Petersburg
Fredericksburg
Alexandria
Manassas Jc.
Warrenton Jc.
Gordonsville
West Point

PIEDMONT AIR LINE

RICHMOND & DANVILLE R. R. SYSTEM.

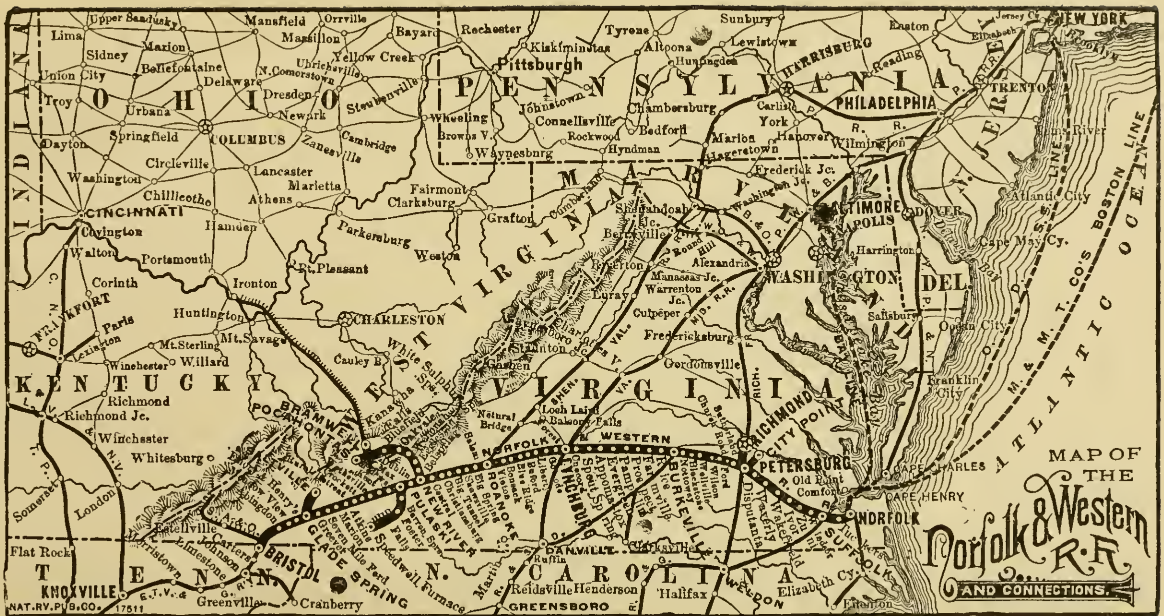
	MILEAGE.
Richmond and Danville Division	610
Virginia Midland Division	355
Atlanta and Charlotte Air Line Division	386
South Carolina Division	393
Columbia and Greenville Division	298
Western North Carolina Division	360
Washington and Ohio Division	50
Total miles	2,452

—ORGANIZATION.—

GEO. S SCOTT, President, ... New York.
T. M. R. TALCOTT, Vice-President, ... Richmond, Va.
PEYTON RANDOLPH, Gen'l Manager, ... Washington. D. C.
W. H. GREEN, General Superintendent, ... Washington D. C.
SOL. HAAS, Traffic Manager, ... Richmond, Va.
JAS. L. TAYLOR, Gen'l Passenger Agent, 1300 Penn. Ave., Washington. D. C.
J. S. POTTS, Division Passenger Agent, ... Richmond, Va.
C. M. BORUM, Division Passenger Agent, ... Alexandria, Va.
W. A. TURK, Division Passenger Agent, ... Raleigh N. C.
D. CARDWELL, Division Passenger Agent, ... Columbia, S. C.
L. L. McCLESKEY, Division Passenger Agent ..... Atlanta, Ga.
W. A. WINBURN, Acting Division Passenger Agent, ... Asheville. N. C.
Jas. H. HILL General Baggage Agent, ... Richmond, Va.
H. P. CLARK, Gen'l Eastern Passenger Agent, ... 229 Broadway, New York.
G. M. HUNTINGTON, Eastern Passenger Agent, ...229 Broadway, New York.
WALDO A. PEARCE, Agent, ... 228 Washington St., Boston.
B. M. HANSOM, New England, Pass'r Ag't, .228 Washington St., Boston, Mass.
F. B. PRICE, Passenger Ageut, ... 33 South 5th St., Philadelphia.
G. R. NEEDHAM, Passenger Agent, ... 233 East German St., Baltimore.
L. S. BROWN, District Passenger Agent.....1300 Penn. Ave., Washington, D. C
C. W. HARWOOD, Soliciting Agent, ... Richmond, Va.

—CONNECTIONS.—

At Alexandria, with Alexandria & Fredericksburg, R. R,, Virginia Midland, and Washington & Ohio Divisions, and Potomac River steamers.
At Burkeville, with Norfolk & Western R. R.
At Calverton. for Warrenton and Fauquier White Sulphur Springs.
At Charlottesville, with Chesapeake & Ohio Route.
At Clarkesville, for Oxford and Henderson
At Danville, with Richmond & Danville Division.
At Danville, with Va. Midland Division and Danville & New River R. R.
At Front Royal, with Shenandoah Valley R R
At Gordonsville. with Chesapeake & Ohio R R.
At Keysville, with Richmond & Mecklenburg R. R.
At Leesburg. with stages for Middleburg.
At Lynchburg, with Norfolk & Western, and Richmond & Alleghany, R. R.
At Manassas. with Manassas Branch, for Strasburg.
At Orange. with Gordonsville Branch, and Potomac Fredericksburg & Piedmont R R.
At Richmond, with lines diverging; also Old Dominion Steamship Co.
At Riverton. with Shenandoah Valley R. R.
At Round Hill, with stages for Berryville and Winchester.
At Strasburg, with Baltimore & Ohio R. R.
At Sutherlin, with Milton & Sutherlin R. R.
At Vienna, with daily stage for Fairfax Court House.
At Washington, with Pennsylvania R. R. and Baltimore & Ohio R. R.
At West Point, with Steamers on Chesapeake Bay, for Baltimore.



MAP OF THE
Norfolk & Western R.R.
AND CONNECTIONS.
ATLANTIC OCEAN
M. & M. T. CO'S BOSTON LINE
OHIO
PENNSYLVANIA
MARYLAND
DEL.
WEST VIRGINIA
VIRGINIA
KENTUCKY
INDIANA
TENN.
N. CAROLINA
NEW YORK
PHILADELPHIA
HARRISBURG
TRENTON
Pittsburgh
COLUMBUS
CINCINNATI
CHARLESTON
WASHINGTON
BALTIMORE
ANNAPOLIS
DOVER
RICHMOND
PETERSBURG
CITY POINT
NORFOLK
SUFFOLK
LYNCHBURG
ROANOKE
NEW RIVER
PULASKI
BRISTOL
GLADE SPRING
BURKEVILLE
DANVILLE
POCAHONTAS
BRAMWELL
KNOXVILLE
FRANKFORT
GREENSBORO
CAPE CHARLES
CAPE HENRY
NORFOLK & WESTERN
Old Point Comfort
Disputanta
Waverly
Wakefield
Ivor
Weldon
Halifax
Henderson
Reidsville
Cranberry
Greenville
Speedwell Furnace
Natural Bridge
White Sulphur Sps.
Staunton
Goshen
Luray
Culpeper
Fredericksburg
Gordonsville
Alexandria
Manassas Jc.
Warrenton Jc.
Harrington
Salisbury
Franklin City
Atlantic City
Cape May Cy.
Wilmington
Hagerstown
Frederick Jc.
Cumberland
Grafton
Fairmont
Clarksburg
Parkersburg
Weston
Pt. Pleasant
Huntington
Ironton
Portsmouth
Covington
Lexington
Paris
Winchester
Richmond
Richmond Jc.
Whitesburg
London
Somerset
Flat Rock
Morristown
Dayton
Springfield
Columbus
Wheeling
Steubenville
Johnstown
Altoona
Tyrone
Sunbury
Lewistown
Reading
Easton
Chambersburg
Carlisle
York
Hanover
Bedford
Cambridge
Zanesville
Newark
Marietta
Athens
Lancaster
Chillicothe
Circleville
Washington
Urbana
Troy
Sidney
Lima
Upper Sandusky
Marion
Bellefontaine
Delaware
Mansfield
Massillon
Orrville
Rochester
NAT. RY. PUB. CO. 17511

Norfolk & Western R. R. Company.

CONNECTIONS--Rail and Steamship.

Norfolk—Old Dominion S. S. Co., N. Y., P & N. R. R., Bay Line, Merchant's & Miners' S. S. Line, Virginia Beach, R. R., Norfolk Southern R. R.
Suffolk—Seaboard & Roanoke R. R.
Waverly—Atlantic & Danville R. R.
Petersburg—Atlantic Coast Line (R. & P. and P. R. Rds.), City Point Branch N. & W. R. R
Burkeville—Richmond & Danville R. R.
Lynchburg—Virginia Midland R R. and Richmond & Alleghany Railroad.
Roanoke—Shenandoah Valley R R.
Radford—New River Branch N. & W. R. R.
Graham—Clinch Valley Division N. & W. R. R. (now building).
Bluestone Jc.—Bluestone Extension (N. & W. R. R.) Mill Creek, Simmons Creek, and Flipping Creek Branches.
Pulaski—Cripple Creek Extension N. & W. R. R.
Bristol—East Tennessee, Virginia & Georgia Ry., South, Atlantic & Ohio R. R.

☞For Through Tickets, Time Tables, Sleeping Car Reservations, Tourists' Guide Books, and general information, apply to or address by mail any of the following offices:

Boston, No. 3 Old State House. G. P. Gaither, New England Agent, 290 Washington St. J. H McCormack, Travelling Agent.
Also at Railroad Ticket Offices at Providence, Worcester, Springfield, Hartford, New Haven, Bridgeport, Stamford, etc.
New York, at No. 1 Astor House; Office of Line, 303 Broadway. S. H. Hardwick, General Eastern Passenger Agent. James E. Prindle, Passenger Agent.
Brooklyn, at No 4 Court St, and Office of Brooklyn Annex, foot Fulton St.
Jersey City, at Penn. R. R. Depot Ticket Office; also at Passenger Station Ticket Offices Penn. R. R., at Newark, Elizabeth, Rahway, New Brunswick and Trenton, N. J.
Philadelphia, at Nos. 838, 833 and 1348 Chestnut St., and Broad St. Depot; also at R. R. Ticket Offices Penn. R. R., at Germantown, Pa., Chester, Pa., Wilmington, Del.
Harrisburg, at Ticket Office of Cumberland Valley R. R.; also Ticket Offices Northern Central R. R., Williamsport, Elmira, Canandaigua, etc.
Pittsburgh, at Penn. Railroad Ticket Office.
Baltimore, Office of Line, 129 East Baltimore St. Kennon Jones, Agent.
Washington, E. J. Lockwood, District Passenger Agent, 1433 Penn'a Ave.
Hagerstown, Md., at Depot Shenandoah Valley Railroad. C. M. Futterer, Passenger Agent.

W. B. Powell, T. A., L. N. A. & C. R. R., Chicago, Ill.
D. R Donough, T. A., C. H. & D. R. R., Indianapolis, Ind.
Geo. Reah, T. A., J. M. & I. R. R., Indianapolis, Ind.
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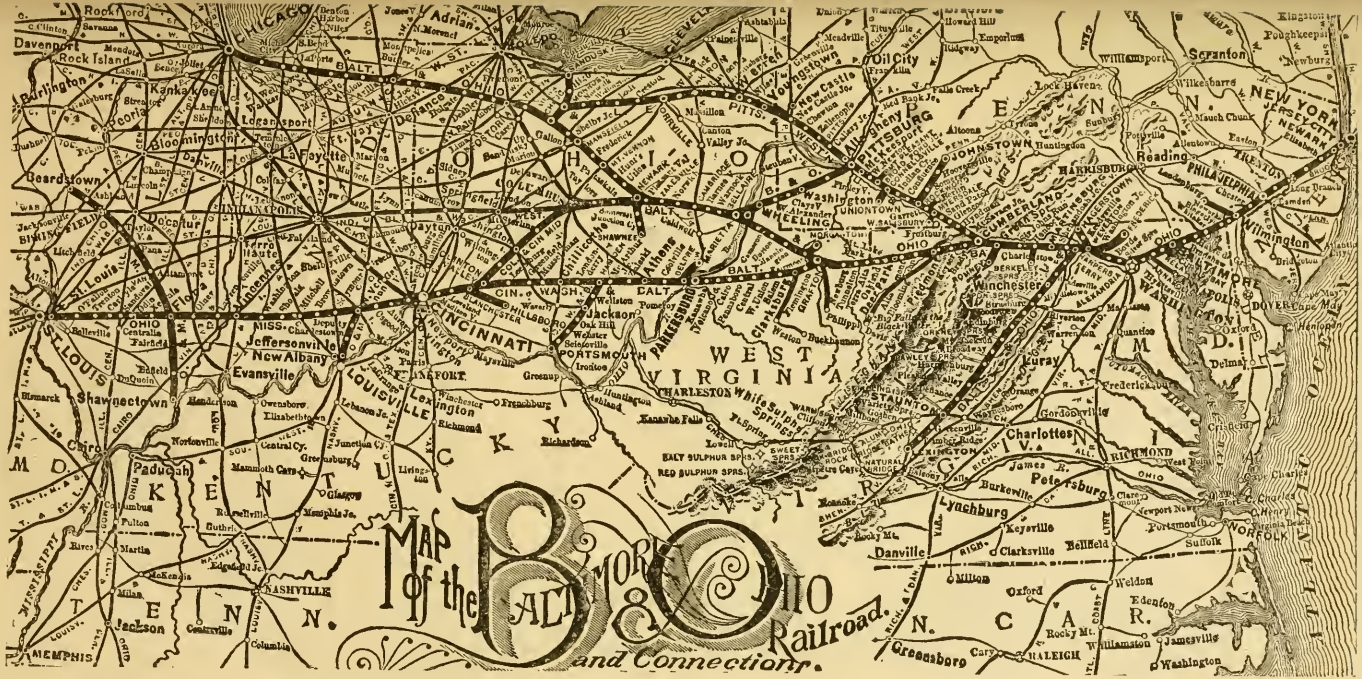
Map of the Baltimore & Ohio Railroad.
and Connections.
CHICAGO
CINCINNATI
ST. LOUIS
WEST VIRGINIA
PITTSBURG
BALTIMORE
WASHINGTON
PHILADELPHIA
NEW YORK
NORFOLK
RICHMOND
NASHVILLE
MEMPHIS
RALEIGH
Rock Island
Davenport
Burlington
Peoria
Bloomington
Springfield
Terre Haute
Indianapolis
Evansville
Louisville
Lexington
Paducah
Cairo
Shawneetown
Jeffersonville
New Albany
Columbus
Springfield
Dayton
Cleveland
Toledo
Akron
Canton
Alliance
Wheeling
Parkersburg
Grafton
Clarksburg
Fairmont
Charleston
White Sulphur Springs
Kanawha Falls
Huntington
Ashland
Maysville
Lexington
Frankfort
Richmond
Danville
Lynchburg
Petersburg
Burkeville
Keysville
Clarksville
Bellfield
Suffolk
Portsmouth
Norfolk
Weldon
Oxford
Edenton
Greensboro
Cary
Williamston
Jamesville
Washington
Harrisburg
Johnstown
Altoona
Pittsburg
Oil City
Scranton
Williamsport
Reading
Allentown
Philadelphia
Wilmington
Baltimore
Washington
Winchester
Martinsburg
Cumberland
Grafton
Fairmont
Clarksburg
Parkersburg
Point Pleasant
Ohio River
Kanawha River
Atlantic Ocean
Chesapeake Bay

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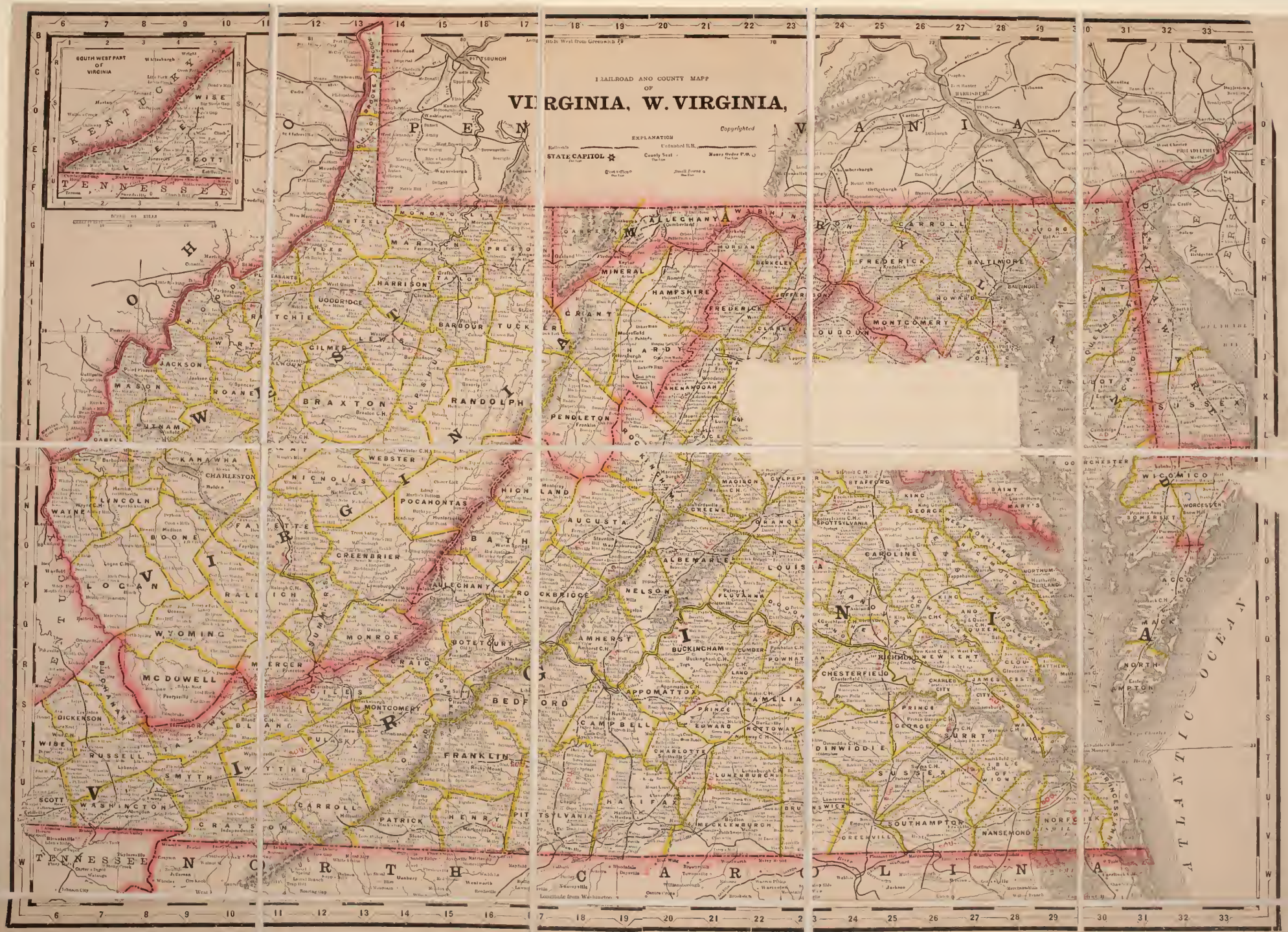
VIRGINIA

AS SHE IS.

1889.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OHIO
WEST VIRGINIA
VIRGINIA
NORTH CAROLINA
ATLANTIC OCEAN
MONONGALIA
MARION
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